Snipes-Dye associates

STORM WATER MANAGEMENT PLAN (SWMP)

Honey Hill Ranch Road/Toby Tentative Map

County of San Diego

TM 5437; LOG NO. 05-14-025

DATED: May 17, 2005

Prepared By

Snipes-Dye Associates

civil engineers and land surveyors

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William A. Snipes, R.C.E. 50477

TABLE OF CONTENTS

APPENDICES:

1. DESCRIPTION OF PROPOSED PROJECT

1.1 Project Location - The project proposes the development of a standard residential subdivision on 4.20 acres of previously disturbed property. The site is located at the southeasterly corner of Honey Hill Ranch Road and Suncrest Vista Lane in the unincorporated area of Alpine. The site currently has one single family residence, a guesthouse, a singlewide mobile home, two riding arenas and a horse barn and stalls. The entire site has been disturbed. Current site vegetation consists of non-native grasses and weeds. Site topography consists of fairly gently sloping with the existing residence being located at the top of the knoll. The land slopes in all directions, away from the existing residence. The site assessor parcel number is 404-032-73.

1.2 Project Description - Project development proposes the construction of a private cul-de-sac street off of Suncrest Vista Lane with seven residential lots abutting the private road. The minimum proposed lot is 0.50 acre net in size. Multiple medium sized cut and fill slopes (less than 15 feet high) are necessary and are located along the proposed lot boundary lines to allow for grading of the project.

1.2.1. Physical Features – Suncrest Vista Lane travels north-south adjacent to the westerly boundary of the site. Honey Ranch Road travels southwest to northeast adjacent to the northwesterly boundary of the site. Single-family residences exist adjacent to the north and south of the project site. Site topography consists of fairly gently sloping with the existing residence being located at the top of the knoll. The land slopes in all directions, away from the existing residence. The project's drainage basins consist of a westerly, northerly and southerly drainage basin. The entire site has been disturbed. Current site vegetation consists of non-native grasses and weeds.

1.2.2. Land Use - The site currently has one single family residence, a guesthouse, a singlewide mobile home, two riding arenas and a horse barn and stalls. The current zoning for the property is RR2 allowing a minimum residential lot size of 0.50 acre. The current General Plan Designation is 3, allowing for single-family residential use. The project proposes the development of a single-family development consisting of a private cul-de-sac street off of Suncrest Vista Lane with seven residential lots abutting the private road. The minimum proposed lot is 0.50 acre net in size. The proposed landuse is consistent with current and future zoning and landuse designations.

1.3 Watershed Contribution - The 4.20-acre site is located at the top of the knoll. The project's drainage basins consist of a westerly, northerly and southerly drainage. The westerly drainage basin is contributory to the Alpine Creek Hydrologic Subarea (907.33) of the Lower San Diego River Hydrologic Area of the San Diego River Watershed. The northerly and southerly drainage basins are contributory to the Viejas Creek Hydrologic Subarea (909.33) of the upper area of the Sweetwater Watershed.

The San Diego River Watershed totals approximately 440 square miles. The project site constitutes less than 0.001 percent of the San Diego River Watershed. The Sweetwater Watershed totals approximately 415 square miles. The project site constitutes less than 0.001 percent of the Sweetwater Watershed.

Development of the site will decrease the peak discharge at the common point in the 100-year, six-hour storm event approximately 0.44 cubic feet per second for the southerly basin and will decrease the peak discharge approximately 0.36 cubic feet per second for the southerly basin. The westerly basin will discharge at the intersection of Suncrest Vista Lane and Honey Hill Ranch Road. As the property currently stands the discharge will be to vacant property, but the adjoining property is slated for a commercial center with a grocery store as the anchor. A knuckle will be constructed at the subject intersection with a curb inlet proposed to collect the street runoff. The northerly basin currently and will continue to discharge in a sheet flow fashion to the commercial property to the north. The southerly basin will discharge to the residential subdivision to the south and the vacant property to the east as is in the pre-development phase. Development of the site will increase the peak discharge at the common point in the 100-year, six-hour storm event approximately 0.85 cubic feet per second for the westerly basin and will decrease the peak discharge approximately 0.37 cubic feet per second for the northerly basin and approximately 2.09 cubic feet per second for the southerly basin. The net decrease in runoff of 1.61 cubic feet per second for all three basins combined in the developed condition is considered insignificant.

2. APPLICABLE LAWS, REGULATIONS, POLICIES AND REQUIREMENTS

2.1 Federal Laws and Regulations

2.1.1 Clean Water Act - Amendments to the Clean Water Act in 1987 and the subsequent promulgation of federal storm water regulations issued by the Environmental Protection Agency in 1990 resulted in the National Pollutant Discharge Elimination System (NPDES) permit process. These regulations establish standards for controlling discharges from municipal storm drainage systems, construction sites and industrial activities.

2.1.1.1. Section 401- Water Quality Certification: The Army Corps of Engineers has been charged with the responsibility of verifying that water quality standards as required in the Clean Water Act are implemented in local projects. Projects are submitted to the Army Corps of Engineers for review and approval after local approvals have been achieved. Because this project does not include lands that are "wetlands", such a review will probably not be required.

2.2 State Laws and Regulations

2.2.1. California Water Code-Porter Cologne Water Quality Control Act of 1969: The State of California has codified its laws regarding water in the California Water Code. The Porter Cologne Water Quality Control Act of 1969 is codified as Division 7 beginning with Section 13000. This legislation set up the Water Quality Control Board, established Regional Boards for the regulation of water quality and established policy (among other things). The implementation of the Federal Clean Water Act is handled at the State level by the Water Control Board and its regional boards.

2.2.2. Regional Permit - In San Diego County, the San Diego County Regional Water Quality Control Board developed and issued Order No. 2001-01, "Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, and the San Diego Unified Port District." This Order places the responsibility of implementing the water quality standards upon the local agencies. In turn, the County of San Diego developed the ordinance titled "County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance." The intent of this ordinance is to comply with National Pollution Discharge Elimination Permit Number CAS 0108758.

2.2.3. State Impaired Waterbodies "303(d) list"- The site is located within the Alpine Creek Hydrologic Subarea (907.33) and the Viejas Creek Hydrologic Subarea (909.33). Both hydrologic units are not listed on the 2002, 303(d) list as an impaired waterbody.

3. POTENTIAL EFFECTS TO THE WATER QUALITY ENVIRONMENT

3.1 Beneficial Uses - Beneficial uses of surface waters originating within the Alpine Creek Subarea (907.33) of the San Diego River Watershed and the Viejas Creek Subarea (909.33) of the Sweetwater Watershed as designated in the State Water Resources Control Board's San Diego Regional Basin Plan are listed in Appendix D. These matrixes from the Basin Plan list beneficial use for inland surface waters, coastal waters, reservoirs and lakes, and groundwater.

Beneficial uses are the uses of water necessary for the survival or well being of man, plants, and wildlife. Existing beneficial uses are uses that were attained in surface or ground water prior to November 28, 1975. Potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures.

3.2 Surface Waters

3.2.1 Surface Water Quality Objectives and Beneficial Uses - Beneficial uses for surface waters of the Alpine Creek Hydrologic Subbasin (907.33) are listed as agricultural supply, cold freshwater habitat, industrial service supply, municipal and domestic supply, industrial process supply, non-contact water recreation, warm freshwater habitat, and wile life habitat. There is no water quality objective listed in the *Water Quality Standards Inventory Database* compiled by Caltrans for the Alpine Creek Hydrological Subbasin (907.33).

Beneficial uses for surface waters of the Viejas Creek Hydrologic Subbasin (909.33) are listed as agricultural supply, cold freshwater habitat, industrial service supply, municipal and domestic supply, industrial process supply, non-contact water recreation, warm freshwater habitat, and wile life habitat. There is no water quality objective listed in the *Water Quality Standards Inventory Database* compiled by Caltrans for the Alpine Creek Hydrological Subbasin (909.33).

3.3 Groundwater – The extensive groundwater resources located beneath the Alpine Creek and Viejas Creek and provide a cost effective and reliable water supply for local water districts within the basin. The quantity and quality of the groundwater is currently threatened by excessive extraction, increased total dissolved solids, and MTBE contamination.

4. CHARACTERIZATION OF PROJECT RUNOFF

4.1 Storm Water Quality at Outfall – The proposed development of the project site will increase the potential for stormwater degradation at the project outfall. The nature of urban residential subdivision design and the site topography limit the potential for stormwater treatment. Source treatment of site stormwater can most readily be accomplished on the residential lot pads. Due to the lack of a developed subterrainian storm drain system within the project vicinity, structural best management practices such as filters and separators are not practical. The current and proposed site uses are similar. It is anticipated that the quality of stormwater discharge will not be significantly altered with the development of the site.

4.2 Tributary Drainage Area to Outfall – Site topography consists of a "knoll" hilltop with site drainage sheet flowing from the top in three drainage basins, the northerly, southerly and westerly basins. The northerly and southerly basins approximately 40% of the site are the tributary to the Viejas Creek Hydrologic Subarea (909.33) of the Sweetwater Watershed. The westerly basin, other 60% of the site is a tributary to the Alpine Creek Hydrologic Subunit (907.33) of the San Diego River Watershed. Current site potential pollutants are similar to potential pollutants from the developed site due to the similar land uses.

4.3 Site Hydrology- Project development proposes the construction of a private cul-de-sac street off of Suncrest Vista Lane with seven residential lots abutting the private road. The minimum proposed lot is 0.50 acre net in size. Multiple medium sized cut and fill slopes (less than 15 feet high) are necessary and are located along the proposed lot boundary lines to allow for grading of the project. Rational method 100-year, six-hour peak discharge calculations for the developed site indicate a peak discharge at the three common points of approximately 9.56 cubic feet per second for the westerly basin, 2.19 cubic feet per second for the northerly basin and 3.33 cubic feet per second for the southerly basin. The total post-development discharge was calculated to be 15.08 cubic feet per second.

4.4 Water Quality Treatment on Water Quantity Design Storm – Stormwater discharge from the site must be treated to the maximum extent practical based upon criteria established by the California Regional Water Quality Control Board. The Board has designated two methods of determining treatment quantity, volume-based and flow-based. Volume-based treatment is defined as the volume of runoff generated by each storm of intensity up to and including the 85th percentile, 24-hour event. Flow-based treatment is defined as the peak flow generated by each storm of intensity up to and including the 85th percentile 1-hour event. Stormwater treatment will be provided on each individual residential lot in the form of vegetated swale treatment. See attached BMP in Appendix B.

4.5 Site Plans and Adjacent Land Use – The proposed tentative map and conceptual grading plan are included in Appendix E.

4.6 Soil Characteristics - The *USDA Soil Service Soil Survey, California* published in December 1973 classifies the site surface soils. The survey classifies the project surface soils as a Fallbrook rocky sandy loam (FeD2). The Fallbrook soil consists of well-drained, moderately deep too deep sandy loams that formed in materials weathered in place from granodiorite. The surface layer is brown, slightly acid and neutral sandy clay loam. The subsoil is reddish-brown and light reddish-brown, slightly acid and neutral sandy clay. Runoff is medium to rapid, and the erosion hazard moderate to high. The available water holding capacity is 4.5 to 7.5 inches.

5. PROJECT DESIGN/CONTROL MEASURES TO PROTECT WATER QUALITY

5.1 Pollution Prevention Best Management Practices – Best management practices (BMP's) shall be installed to eliminate the potential discharge of stormwater pollutants to the maximum extent practicable. The two phases of BMP utilization are the construction phase and the post-construction phase. Post-construction phase BMP's shall be maintained in perpetuity through the life of the project.

5.1.1. Construction BMPs- The following BMPs are selected as being appropriate for this specific site (from *Construction Activity, Best Management Practices Handbook, Stormwater Quality Task Force*, March 1993):

- **ESC1- Scheduling:** This activity provides for the sequencing of construction activities to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff and vehicle tracking.
- **ESC10- Seeding and Planting:** Normally done at the conclusion of site disturbance to become a permanent BMP, seeding and planting of grasses, shrubs, trees and/or ground covers provides long-term stabilization of soil.
- **ESC11- Mulching:** Mulching is used to temporarily or permanently stabilize cleared or freshly seeded areas. Hydro seed is an example of seed and mulch being placed at the same time. Hydro seed is expected to be used to mitigate surface soil disturbance occurring in the process of placing septic fields.
- **ESC20- Geotextiles and Mats:** Matting made of natural or synthetic materials may be used to temporarily stabilize slope areas and shallow swales.
- **ESC21- Dust Control:** Dust control measures are used to stabilize soil from wind erosion, and reduce dust generated by construction activities. Periodic watering will address these issues.
- **ESC23- Construction Road Stabilization:** Access roads, parking areas, and other on-site vehicle transportation routes should be stabilized immediately after grading and frequently maintained to prevent erosion and control dust.

- **ESC24- Stabilized Construction Entrance:** A stabilized pad of aggregate underlain with filter cloth located at the point where traffic will enter or leave the construction site will significantly reduce the amount of sediment tracked off-site.
- **ESC30- Earth Dike:** The temporary earth dike shall be used to channel drainage from the graded pads to temporary sediment traps (see ESC55).
- **ESC31- Drains and Swales:** Temporary drains and swales shall be used to divert runoff around the construction site, to divert runoff from stabilized areas around disturbed areas and to direct runoff into sediment traps.
- **ESC32- Slope Drain:** A pipe or channel shall be used to drain the top of a slope to a stable discharge point at the bottom of the slope without causing erosion.
- **ESC40- Outlet Protection:** At locations where runoff is concentrated by a pipe or open channel, outlet protection in the form of rock, grouted rip-rap or concrete rubble shall be placed to prevent scour of the soil and to absorb flow energy to reduce flow velocities to non-erosive levels.
- **ESC50- Silt Fence:** A silt fence that detains sediment-laden water shall be used at the down slope limits of site disturbance to promote sedimentation behind the fence, while releasing the water.
- **ESC52- Gravel Bag Barrier:** Stacking gravel bags along a level contour creates a barrier, which detains sediment-laden water, ponding water upstream of the barrier and promoting sedimentation.
- **ESC55- Sediment Trap:** Sediment traps shall be used to settle out sediment from runoff leaving the site.
- **CA 2- Paving Operations:** Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runon and runoff pollution, properly disposing of wastes and training employees and subcontractors.
- **CA 3- Structure Construction and Painting:** Prevent or reduce the discharge of pollutants to stormwater from structure construction and painting by enclosing or covering or berming building material storage areas, using good housekeeping practices, using safer alternative products and training employees and subcontractors.
- **CA 10- Material Storage and Delivery:** Prevent or reduce the discharge of pollutants to stormwater from material delivery and storage by minimizing the storage of hazardous materials on-site, storing materials in a designated area, installing secondary containment, conducting regular inspections and training employees and subcontractors.
- **CA 11- Material Use:** Prevent or reduce the discharge of pollutants to stormwater from material use by using alternative products, minimizing hazardous material use on-site and training employees and subcontractors.

- **CA 12- Spill Prevention and Control:** Prevent or reduce the discharge of pollutants to stormwater from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials and training employees.
- **CA 20- Solid Waste Management:** Prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal and training employees and subcontractors.
- **CA 23- Concrete Waste Management:** Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout off-site, performing on-site washout in a designated areas and training employees and subcontractors.
- **CA 24- Sanitary Waste Management:** Prevent or reduce the discharge of pollutants to stormwater from sanitary waste by providing convenient, well-maintained facilities and arranging for regular service and disposal.
- **CA 31- Vehicle and Equipment Fueling:** Prevent or reduce the discharge of pollutants to stormwater by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls and training employees and subcontractors.
- **CA 40- Employee/Subcontractor Training:** Employee/subcontractor training, like maintenance or a piece of equipment, is not so much a best management practice as it is a method by which to implement BMP's.

The responsibility of implementing and maintaining the above BMP's during the construction period shall reside with the licensed contractor who is responsible for overall project construction management. In the event the owner chooses to be the project manager, the responsibility will reside with the owner.

5.1.2. Post-Construction Best Management Practices – *The County of San Diego Stormwater Standards Manual* (Ordinance No. 9426) identifies potential pollutants that may be generated by detached residential development.

The following are specific potential pollutants that may be generated by the proposed project. Proposed control measures are described for each identified potential pollutant.

- **Sediment** – Existing and proposed slopes will be landscaped. Site grounds will be landscaped and maintained to control silt runoff.
- **Nutrients** – The use of landscape fertilizers will be controlled and utilized sparingly. Fertilizer use will be controlled in accordance with local, state and federal regulations.
- **Pesticides** – The use of pesticides is a potential pollution source. Pesticide use will be eliminated to the most practicable extent. When pesticide use is necessary, pesticides will be applied in accordance with local, state, and federal regulations.

- **Trash & Debris** – Individual residential trash collection will limit exposure of trash and debris to stormwater.
- **Oxygen Demanding Substances** – Refer to organic compounds and trash and debris.
- **Oil & Grease** – Driveways and vehicle parking areas are potential sources of oil and grease pollution. Areas of vehicle activity should be maintained and periodically swept.
- **Bacteria & Viruses** – The existing and proposed development is not considered a potential source of bacteria or virus pollution.

Pollutants of concern as noted will be managed through three classifications of best management practices; site design, source control, and treatment control.

5.2 Site Design Best Management Practices - The following considerations have been integrated into the site design to control post-development peak stormwater discharge rates:

a. Impervious Areas – Site design proposes the minimum required street improvement widths to limit the area of impervious surface to adequately develop the subdivision. Proposed lot pads are considered large allowing for additional area on individual residential sites for the development of landscape areas.

5.3 Source Control Best Management Practices – The following considerations have been integrated into the site design to provide source control of potential site stormwater contaminants:

a. **Trash Storage** – Individual private trash service commonly utilized for single-family residential development will be provided for this project. Individual collection limits the potential for contact of the trash and debris with site stormwater.

b. **Efficient Irrigation System** – Site slope landscape irrigation systems will be designed to include precipitation shutoff devices to more efficiently manage the need for landscape irrigation. Flow reducers will be incorporated into the irrigation system design.

5.4 Treatment Control Best Management Practices – The following considerations have been integrated into the site design to provide treatment of potential site generated stormwater contaminants:

a. **Bio-Filter Turf Swales** – The proposed pad grading of individual residential lots are suited for installation of a bio-filter turf swale anywhere around the future house on each lot. Bio-filter turf swales open, shallow swales with turf covering the bottom and slowly convey runoff flow from impervious surface areas such as rooftops, driveways and walkways prior to discharging to the cul-de-sac. The bio-filter turf swales are encouraged to incorporate into the individual lot's landscaping and building plans. The bio-filter turf swales will be located on private property, requiring individual owners to maintain the facility.

b. **Construction Phase Best Management Practices** – A Storm Water Pollution Prevention Plan (SWPPP) will be required for this project in compliance with the current State of California General NPDES Permit for Storm Water Discharges Associated with Construction Activities and the County of San Diego Storm Water Standards.

6. MAINTENANCE STORM WATER MANAGEMENT PROGRAM

6.1 Maintenance Responsibility - The maintenance responsibility during the construction activity shall reside with the licensed contractor who is responsible for overall project construction management. In the event the owner chooses to be the project manager, the responsibility will reside with the owner. The maintenance responsibility for the operating project (post-construction) resides with the individual property owner. The property owner shall be responsible for maintaining, monitoring and repairing BMPs during the life of the project.

6.2 Maintenance Activities – The following listed BMPs are to be maintained in perpetuity to protect storm water quality being released from the site. The manner of maintenance required is indicated.

6.2.1 Maintenance of Vegetative Cover on Slopes and Disturbed Areas –

Design Criteria, Routine Action - Drought tolerant ground cover, shrubs and trees are appropriate for slope areas. Plant materials should be selected that thrive in the soil type are in the same regime of water demand, can withstand the temperature extremes of the site and are appropriate for wind/exposure conditions at the site.

Maintenance Indicators- Groundcover should maintain near complete coverage of the areas being protected. Plant materials should have a healthy appearance and maintain good coverage.

Shrubs and trees should maintain a healthy appearance.

Field Measurement- Visual inspection is all that is required to determine the adequacy of plant material coverage and general plant health.

Measurement Frequency- Visual inspections should be performed at least monthly so that appropriate actions can be taken to assure good coverage during the rainy season.

Maintenance Activity- Shrubs, trees and ground covers must be adequately watered and fertilized. Shrubs and trees may need pruning.

Site Specific Requirements- The site is subject to freezing temperatures during winter months and hot temperatures during summer. Appropriate plant materials to accommodate the specific site requirements shall be selected for use on this site.

6.2.2 Pad Drainage and Swales –

Design Criteria, Routine Action- Swales shall be used to route pad drainage so that drainage does not flow across manufactured slopes. Sheet flow from pads onto natural grade is acceptable as an alternate. Swales should be stabilized with grasses or mulches and be maintained at an uninterrupted, positive grade to a stabilized outlet. Drains can be used to substitute for surface drainage. Drains require appropriate sizing for the area being served and need to be installed with a gradient of at least 1% to maintain positive flows and some self-cleaning capability.

Maintenance Indicators- Visible erosion in a swale is an indication that velocities are too high and that stabilization method is not working. Ponding water in swales indicates that gradients need modification to re-establish positive, interrupted grades.

Field Measurement- Visual inspection during the rainy season is all that is needed to assure adequate functioning of swales. Drains should be checked periodically with a flow from a hose to verify that the drain is open and functioning.

Measurement Frequency- Visual inspections of swales and testing of drains should be done monthly during the rainy season and after each rain.

Maintenance Activity- Swales need to be cleaned to maintain an uninterrupted, positive gradient. Drains require flushing to clean out accumulated debris.

Site-Specific Requirements- Site soils are subject to erosion with high flow velocities making soil stabilization necessary and important.

7. **FISCAL RESOURCES** – Individual property owners shall provide the fiscal resources to adequately maintain the best management practices incorporated into this project.

   7.1 **Agreements** – The individual property ownership nature of a single-family residential subdivision does not readily provide a sole source of responsibility for the overall maintenance of site specific best management practices. Individual maintenance agreements are not proposed for this project.

8. **PROGRAM EVALUATION** – Upon completion of the construction phase of this project and the occupancy of the individual single-family residences, the stormwater management program outline in this plan shall be evaluated on an annual basis by each property owner to determine its adequacy. In the event that deficiencies are identified, adjustments to the best management practices shall be made and documented in an addendum to this plan to address those deficiencies.

9. **SUMMARY/CONCLUSION** - This Storm Water Management Plan (SWMP) has been prepared in accordance with the Watershed Protection, Storm Water Management, Discharge Control Ordinance and Storm Water Standards Manual. This SWMP has evaluated and addressed the potential pollutants associated with this project and their effects on water quality. A summary of the findings associated

with the subject project and the recommended measures addressed by this SWMP are as follows:

- The beneficial uses for the receiving waters have been identified in sections above. The beneficial uses will not be impaired or diminished due to the construction and operation of the project if all the appropriate BMPs are implemented.
- With the development of this project drainage patterns will not be significantly altered. The existing conditions discharge points will not be altered significantly. The slight increase in runoff with the development of the site is considered insignificant, as it is very minor.
- Open areas and slopes shall be landscaped to reduce or eliminate sediment discharge from the project site.
- Vegetated swales shall be utilized to filter sediment and other pollutants out of sediment discharge from the project site.
- The proposed construction and post-construction BMPs address control measures to protect water quality and protection of water quality objectives and beneficial uses to the maximum extent practical.

10. REFERENCES - The following references were used in the preparation of this management plan:

- *County of San Diego Stormwater Standards Manual*
- *County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance*
- *Storm Water Quality Handbooks*, Project Planning and Design Guide, CalTrans (State of California Department of Transportation), Camp Dresser & McKee, Inc., May 2000.
- *Staff Report for Standard Urban Storm Water Mitigation Plans and Numerical Sizing Criteria for Best Management Practices*, California Regional Water Quality Control Board, San Diego Region, 2001.
- *Soil Survey*, USDA Soil Conservation Service, December 1973.
- *California Storm Water Best Management Practice Handbooks (Construction Activity and Municipal)*, Camp Dresser & McKee, et al, March 1993.

APPENDIX A

Snipes-Dye associates

CEQA PRELIMINARY

HYDROLOGY/DRAINAGE STUDY

HONEY HILL RANCH ROAD/TOBY TM

County of San Diego

TM _____; LOG NO. 05-__-___

Dated: May 13, 2005

Prepared By:

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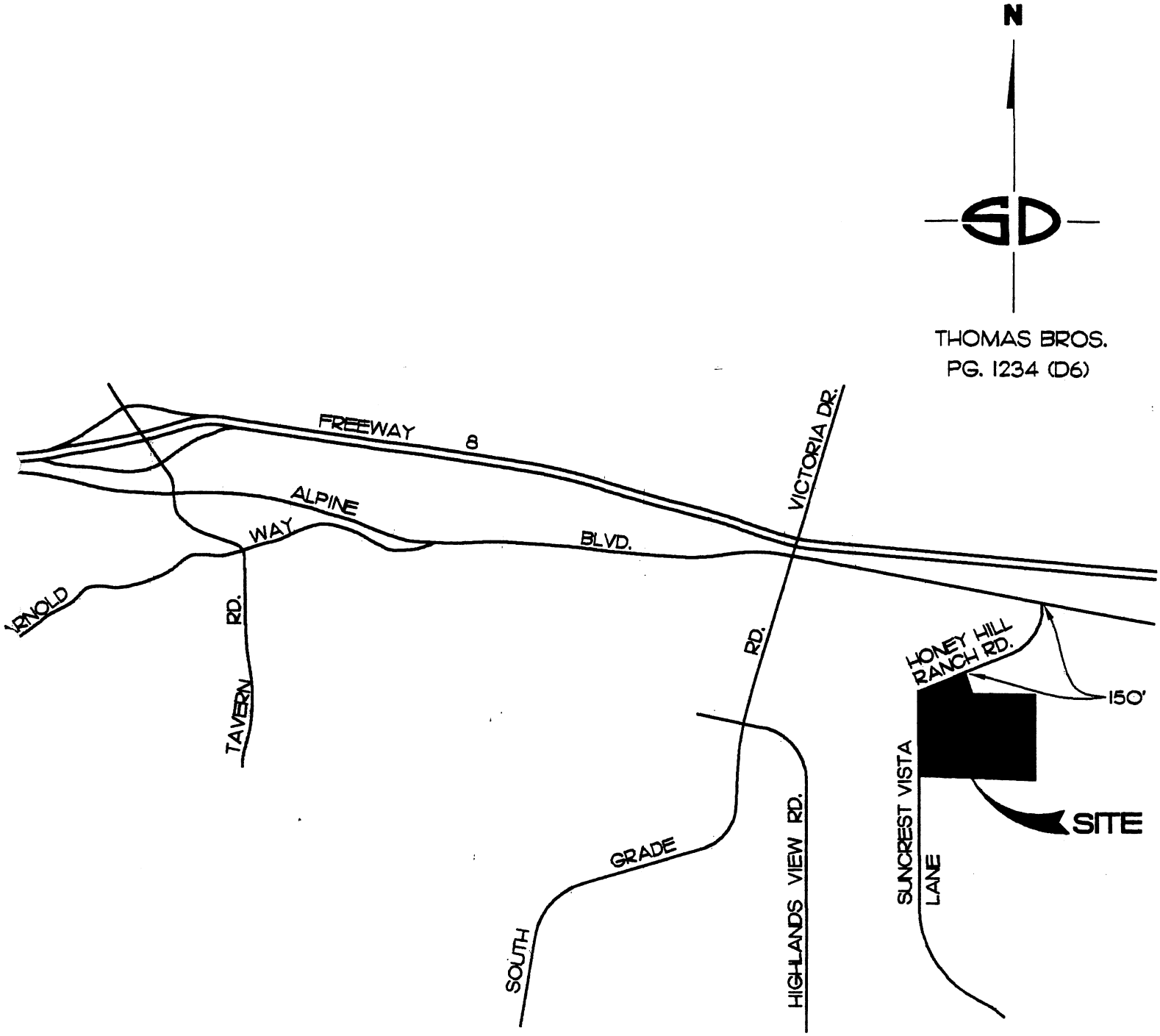


VICINITY MAP

NO SCALE

Preliminary Hydrology and Hydraulic Calculations for the Honey Hill Ranch Road/Toby Subdivision

The project proposes the development of a standard residential subdivision on 4.20 acres of previously disturbed property. The site is located at the southeasterly corner of Honey Hill Ranch Road and Suncrest Vista Lane in the unincorporated area of Alpine. The site currently has one single family residence, a guesthouse, a singlewide mobile home, two riding arenas and a horse barn and stalls. The entire site has been disturbed. Current site vegetation consists of non-native grasses and weeds. Site topography consists of fairly gently sloping with the existing residence being located at the top of the knoll. The land slopes in all directions, away from the existing residence.

Rational method peak discharge calculations have been prepared for the site including the small offsite basin. A point of discharge was chosen to provide a common point to compare pre- and post-development flows at three locations. The project's drainage basins consist of a westerly, northerly and southerly drainage basin. Calculated 100-year, six-hour peak discharge for the current (pre-development) condition is approximately 8.71 cubic feet per second for the westerly basin, 2.56 cubic feet per second for the northerly basin and 5.42 cubic feet per second for the southerly basin. The total pre-development discharge was calculated to be 16.69 cubic feet per second.

Project development proposes the construction of a private cul-de-sac street off of Suncrest Vista Lane with seven residential lots abutting the private road. The minimum proposed lot is 0.50 acre net in size. Multiple medium sized cut and fill slopes (less than 15 feet high) are necessary and are located along the proposed lot boundary lines to allow for grading of the project. Rational method 100-year, six-hour peak discharge calculations for the developed site indicate a peak discharge at the three common points of approximately 9.56 cubic feet per second for the westerly basin, 2.19 cubic feet per second for the northerly basin and 3.33 cubic feet per second for the southerly basin. The total post-development discharge was calculated to be 15.08 cubic feet per second

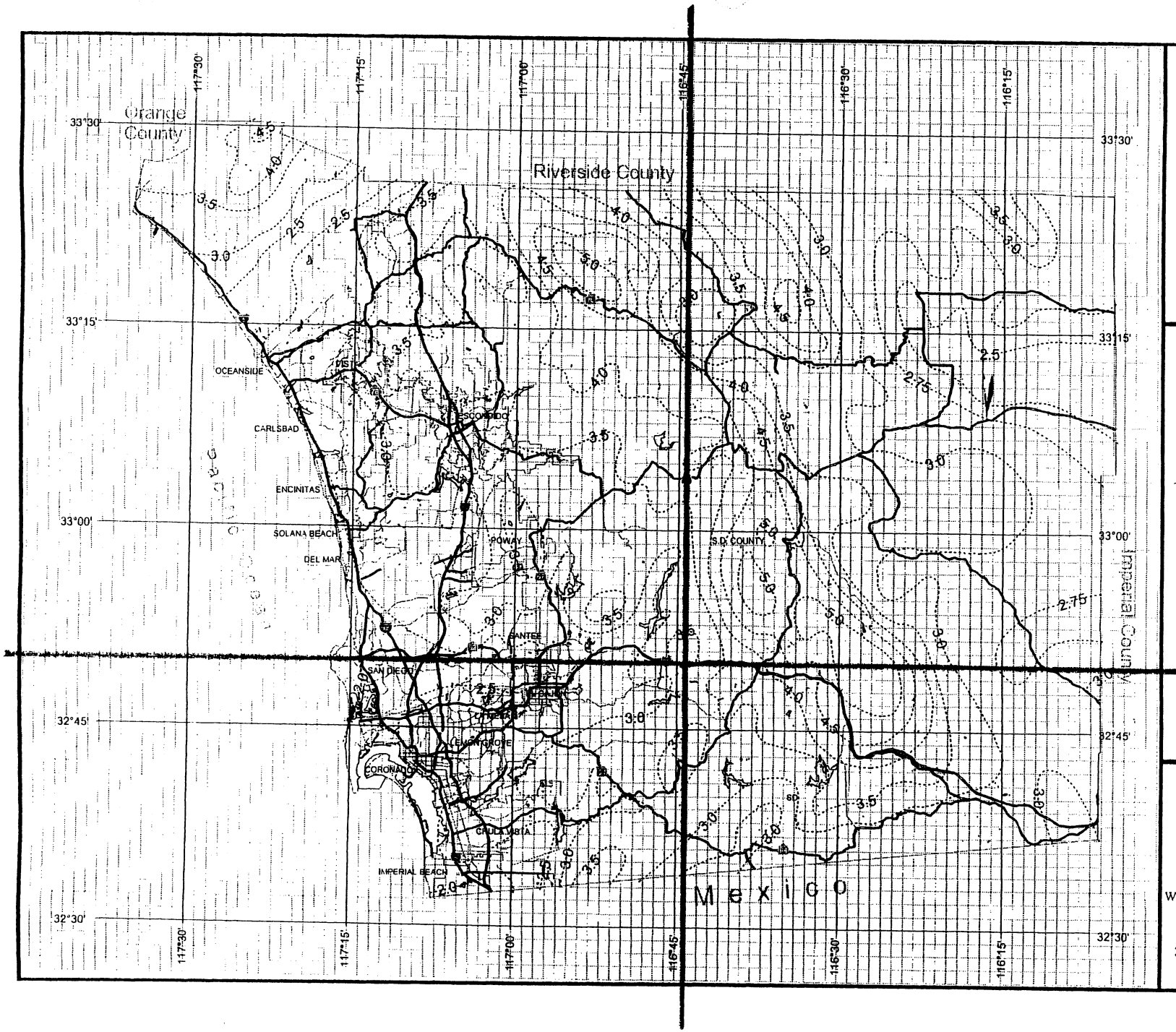
Development of the site will increase the peak discharge at the common point in the 100-year, six-hour storm event approximately 0.85 cubic feet per second for the westerly basin and will decrease the peak discharge approximately 0.37 cubic feet per second for the northerly basin and approximately 2.09 cubic feet per second for the southerly basin. The net decrease in runoff of 1.61 cubic feet per second for all three basins combined in the developed condition is considered insignificant.

The westerly basin will discharge at the intersection of Suncrest Vista Lane and Honey Hill Ranch Road. As the property currently stands the discharge will be to vacant property, but the adjoining property is slated for a commercial center with a grocery store as the anchor. A knuckle will be constructed at the subject

intersection with a curb inlet proposed to collect the street runoff. The northerly basin currently and will continue to discharge in a sheet flow fashion to the commercial property to the north. The southerly basin will discharge to the residential subdivision to the south and the vacant property to the east as is in the pre-development phase.

None of the proposed homesites on the seven lots would be subject to flooding in the 100-year storm. The subject site is not located within any 100-year flood hazard areas.

Hydrology and flow calculations were prepared utilizing AES Hydrology software and the current San Diego County Hydrology Manual.



County of San Diego Hydrology Manual

Rainfall Isopluvials

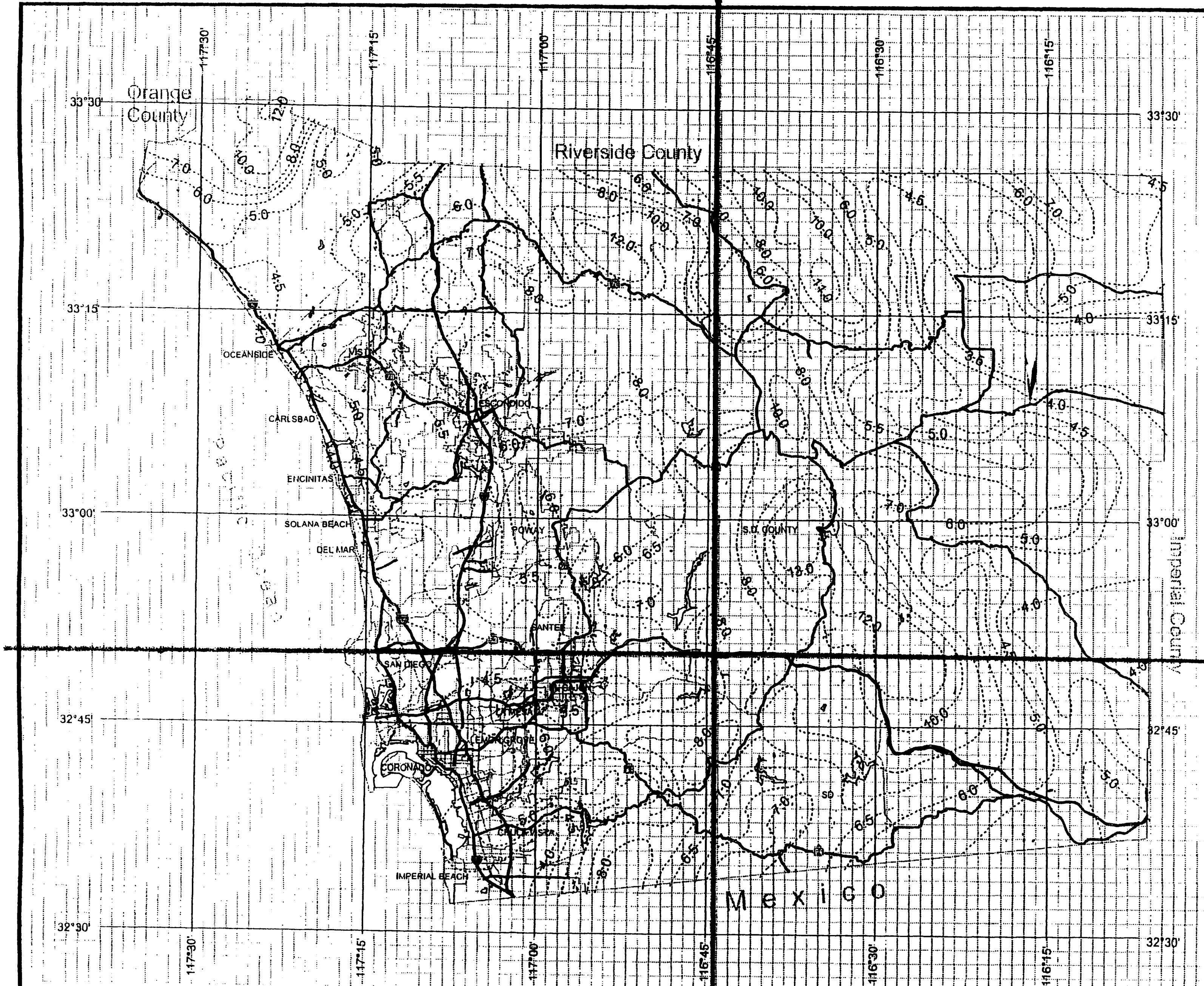
100 Year Rainfall Event - 6 Hours

Isopluvial (inches)

$P_{6_{100}} = 3.5$

N W E S

3 0 3 Miles



County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 24 Hours

.... Isopluvial (inches)

$P_{24_{100}} = 7.6$

DPW GIS

GIS — We Have San Diego Covered!

N E S W

3 0 3 Miles

Table 3-1
RUNOFF COEFFICIENTS FOR URBAN AREAS

Land Use		Runoff Coefficient "C"				
			Soil Type			
NRCS Elements	County Elements	% IMPER.	A	B	C	D
Undisturbed Natural Terrain (Natural)	Permanent Open Space	0*	0.20	0.25	0.30	0.35
Low Density Residential (LDR)	Residential, 1.0 DU/A or less	10	0.27	0.32	0.36	0.41
Low Density Residential (LDR)	Residential, 2.0 DU/A or less	20	0.34	0.38	0.42	0.46
Low Density Residential (LDR)	Residential, 2.9 DU/A or less	25	0.38	0.41	0.45	0.49
Medium Density Residential (MDR)	Residential, 4.3 DU/A or less	30	0.41	0.45	0.48	0.52
Medium Density Residential (MDR)	Residential, 7.3 DU/A or less	40	0.48	0.51	0.54	0.57
Medium Density Residential (MDR)	Residential, 10.9 DU/A or less	45	0.52	0.54	0.57	0.60
Medium Density Residential (MDR)	Residential, 14.5 DU/A or less	50	0.55	0.58	0.60	0.63
High Density Residential (HDR)	Residential, 24.0 DU/A or less	65	0.66	0.67	0.69	0.71
High Density Residential (HDR)	Residential, 43.0 DU/A or less	80	0.76	0.77	0.78	0.79
Commercial/Industrial (N. Com)	Neighborhood Commercial	80	0.76	0.77	0.78	0.79
Commercial/Industrial (G. Com)	General Commercial	85	0.80	0.80	0.81	0.82
Commercial/Industrial (O.P. Com)	Office Professional/Commercial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (Limited I.)	Limited Industrial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (General I.)	General Industrial	95	0.87	0.87	0.87	0.87

PRE & POST

*The values associated with 0% impervious may be used for direct calculation of the runoff coefficient as described in Section 3.1.2 (representing the pervious runoff coefficient, Cp, for the soil type), or for areas that will remain undisturbed in perpetuity. Justification must be given that the area will remain natural forever (e.g., the area is located in Cleveland National Forest).
DU/A = dwelling units per acre
NRCS = National Resources Conservation Service

PRE-DEVELOPMENT

RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
2003,1985,1981 HYDROLOGY MANUAL

Ver. 2.0 Release Date: 01/01/2004 License ID 1305

Analysis prepared by:

Snipes-Dye Associates
8348 Center Drive, Suite G
La Mesa, CA 91942-2910
Fax (619)460-2033 Phone (619)697-9234

********** DESCRIPTION OF STUDY **********
* HONEY HILL RANCH ROAD/TOBY TENTATIVE MAP *
* **PRE-DEVELOPMENT RUNOFF CALCULATIONS** *
*

FILE NAME: AL1171PR.DAT
TIME/DATE OF STUDY: 16:24 05/12/2005

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

2003 SAN DIEGO MANUAL CRITERIA

USER SPECIFIED STORM EVENT(YEAR) = 100.00
6-HOUR DURATION PRECIPITATION (INCHES) = 3.500
SPECIFIED MINIMUM PIPE SIZE(INCH) = 4.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF-WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH (FT)	LIP (FT)	HIKE (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)
*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

BASIN A – WESTERLY BASIN

```
****************************************************************************
   FLOW PROCESS FROM NODE      1.00 TO NODE      2.00 IS CODE =  21
 ----------------------------------------------------------------------------
   >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 ============================================================================
   RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
   SOIL CLASSIFICATION IS "D"
   S.C.S. CURVE NUMBER (AMC II) =  84
   INITIAL SUBAREA FLOW-LENGTH(FEET) =   480.00
   UPSTREAM ELEVATION(FEET) =   2086.00
   DOWNSTREAM ELEVATION(FEET) =   2057.00
   ELEVATION DIFFERENCE(FEET) =     29.00
   SUBAREA OVERLAND TIME OF FLOW(MIN.) =    6.325
   WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
            THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
            (Reference: Table 3-1B of Hydrology Manual)
            THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
    100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.924
   SUBAREA RUNOFF(CFS) =      8.71
   TOTAL AREA(ACRES) =      2.39   TOTAL RUNOFF(CFS) =       8.71
```

BASIN B - NORTHERLY BASIN

```
****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
  SOIL CLASSIFICATION IS "D"
  S.C.S. CURVE NUMBER (AMC II) =  84
  INITIAL SUBAREA FLOW-LENGTH(FEET) =    90.00
  UPSTREAM ELEVATION(FEET) =   2088.20
  DOWNSTREAM ELEVATION(FEET) =   2072.00
  ELEVATION DIFFERENCE(FEET) =     16.20
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.073
  WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  9.136
  SUBAREA RUNOFF(CFS) =      2.56
  TOTAL AREA(ACRES) =      0.61   TOTAL RUNOFF(CFS) =       2.56
```

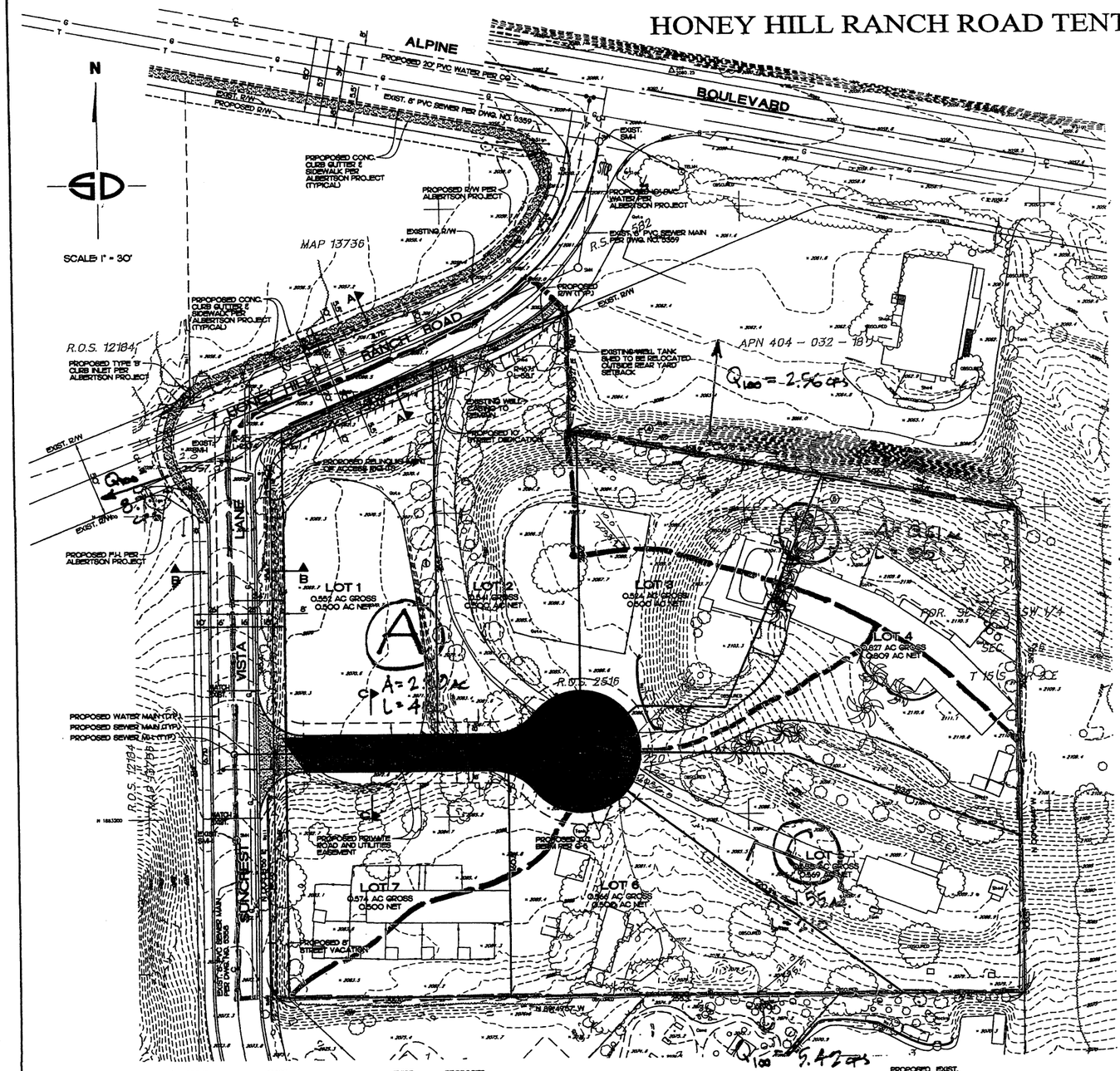
BASIN C - SOUTHERLY BASIN

```
****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
  SOIL CLASSIFICATION IS "D"
  S.C.S. CURVE NUMBER (AMC II) =  84
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   210.00
  UPSTREAM ELEVATION(FEET) =   2086.00
  DOWNSTREAM ELEVATION(FEET) =   2075.50
  ELEVATION DIFFERENCE(FEET) =     10.50
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    6.737
  WARNING:  INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
            THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
            (Reference: Table 3-1B of Hydrology Manual)
            THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.608
  SUBAREA RUNOFF(CFS) =      5.42
  TOTAL AREA(ACRES) =      1.55   TOTAL RUNOFF(CFS) =       5.42
```

PRE-DEVELOPMENT TOTALS

TOTAL AREA (ACRES) = 4.55
TOTAL RUNOFF (CFS) = 16.69

HONEY HILL RANCH ROAD TENTATIVE MAP



EASEMENT DATA

(4) AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES TO SAN DIEGO GAS AND ELECTRIC COMPANY, RECORDED NOVEMBER 20, 1928 AS BOOK 1561, PAGE 5 OF DEEDS.

(5) AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES TO SAN DIEGO GAS AND ELECTRIC COMPANY, RECORDED APRIL 24, 1951 IN BOOK 4071, PAGE 83 OF OFFICIAL RECORDS.

BASIN	AREA (AC.)	LENGTH	Q_{100}
A	2.39	480'	8.71
B	0.61	80'	2.56
C	1.55	210'	5.42
	4.55		16.69 CFS

PROJECT INFORMATION

ASSESSOR'S PARCEL NUMBERS: 404-032-73

TAX RATE AREA: 51012

REGIONAL PLAN DESIGNATION: CT, COUNTRY TOWN

COMMUNITY PLAN AREA: ALPINE

GENERAL PLAN DESIGNATION: NO. 3, RESIDENTIAL

EXISTING ZONING: (SEE BOX)

PROPOSED ZONING: (SEE BOX – NO CHANGE)

WATER: PADRE DAM MUNICIPAL WATER DISTRICT

SEWER: ALPINE SANITATION DISTRICT

FIRE DISTRICT: ALPINE FIRE PROTECTION DISTRICT

SCHOOL DISTRICT: ALPINE UNION SCHOOL DISTRICT (K–8), GROSSMONT UNION HIGH SCHOOL DISTRICT (9–12)

ZONING DATA		EXIST.	PROP.
USE REGULATIONS		RR2	RR2
NEIGHBORHOOD REGS.		J	J
DEVELOPMENT REGULATIONS	DENSITY	2	2
	LOT SIZE	0.5 AC	0.5 AC
	BUILDING TYPE	C	C
	MAX. FLOOR AREA	---	---
	FLOOR AREA RATIO	---	---
	HEIGHT	G	G
	LOT COVERAGE	---	---
	SET BACK	G	G
	OPEN SPACE	---	---
SPECIAL AREA REGS.		---	---

STREET LIGHTING: COUNTY OF SAN DIEGO

ACCESS: SUNCREST VISTA LANE, COUNTY MAINTAINED ROAD

SITE ADDRESS: 3087 HONEY HILL RANCH ROAD, ALPINE, CA.

ASSOCIATED PERMITS: NONE

GRADING: CUT 8,250 C.Y.
FILL 8,250 C.Y.
EXPORT 0 C.Y.

TOPOGRAPHY: PROVIDED SAN-LO AERIAL SURVEYS, DATED 12-21-04.

SOLAR STATEMENT: ALL LOTS WITHIN THIS SUBDIVISION HAVE A MINIMUM OF 100 SQUARE FEET OF SOLAR ACCESS FOR EACH FUTURE DWELLING/COMMERCIAL/INDUSTRIAL/UNIT ALLOWED BY THIS SUBDIVISION.

GENERAL NOTES

1. ALL AREAS NOTED ARE GROSS AND NET, UNLESS OTHERWISE NOTED.
2. THE DEVELOPER SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED IN THE COUNTY STANDARDS FOR THE LOCATION OF STREET LIGHTS.
3. THE DEVELOPER SHALL PAY PARK FEES IN LIEU OF PARK LAND DEDICATION.
4. NO SPECIAL ASSESSMENTS WILL BE MADE ORREQUESTED.
5. PROJECT DATA: 4.20 ACRES GROSS, 3.88 ACRES NET.
6. MINIMUM LOT SIZE = 0.500 ACRES.
7. TOTAL LOTS / DU'S = 7.

UTILITY NOTES

1. WATER SYSTEM TO BE INSTALLED PER PADRE DAM MUNICIPAL WATER DISTRICT STANDARDS.
2. SEWER SYSTEM TO BE INSTALLED PER ALPINE SANITATION DISTRICT STANDARDS.
3. PROPOSED DRY UTILITIES SHALL BE PLACED UNDERGROUND ACCORDING TO COUNTY STANDARDS.

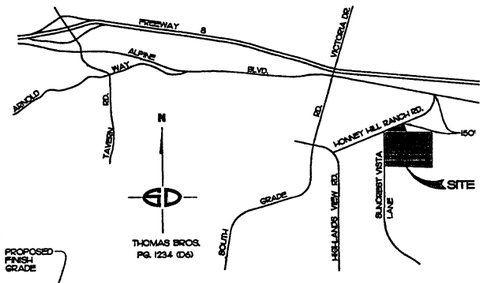
OWNER / SUBDIVIDER / APPLICANT

MICHAEL J. TOBY
JOYCE TOBY
3087 HONNEY HILL RANCH ROAD
ALPINE, CA 91901
PHONE: 619/659-0164

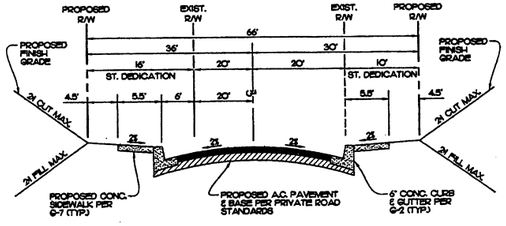
MICHAEL J. TOBY JOYCE TOBY

LEGAL DESCRIPTION

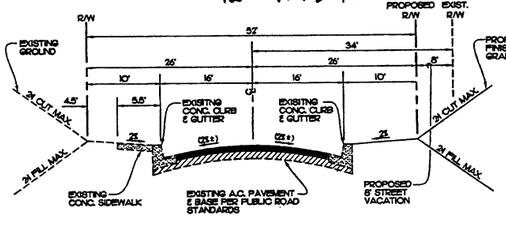
A PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 26, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.



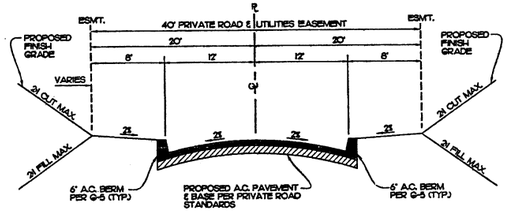
VICINITY MAP
NO SCALE



HONEY HILL RANCH ROAD
TYPICAL SECTION 'A-A'
NO SCALE



SUNCREST VISTA LANE
TYPICAL SECTION 'B-B'
NO SCALE



PRIVATE ROAD
TYPICAL SECTION 'C-C'
NO SCALE

GRAPHIC SCALE
30 15 0 30 60 90

ENGINEER OF WORK

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 667-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 09-30-05

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 09-30-05 — CIVIL — STATE OF CALIFORNIA

TENTATIVE MAP
HONEY HILL RANCH ROAD
SHEET TITLE
JOB NAME
DESIGNED WAS
DRAWN TCT
CHECKED WAS
DATE 5/20/05
NO DATE BY REVISION DESCRIPTION

PRE-DEVELOPMENT TENTATIVE M

POST-DEVELOPMENT

```
**************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
                         2003,1985,1981 HYDROLOGY MANUAL
          (c) Copyright 1982-2004 Advanced Engineering Software (aes)
              Ver. 2.0 Release Date: 01/01/2004  License ID 1305

                              Analysis prepared by:

                                Snipes-Dye Associates
                               8348 Center Drive, Suite G
                                La Mesa, CA  91942-2910
                           Fax (619)460-2033  Phone (619)697-9234

 ************************** DESCRIPTION OF STUDY **************************
* HONEY HILL RANCH ROAD/TOBY TENTATIVE MAP                                *
* POST-DEVELOPMENT RUNOFF CALCULATIONS                                    *
*                                                                         *
 *************************************************************************

  FILE NAME: AL1171PO.DAT
  TIME/DATE OF STUDY: 15:20 05/13/2005
--------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
--------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) = 100.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   3.500
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  =====  ======  =====  =======
  1   16.0     10.0    0.020/0.020/0.020   0.50    1.50 0.0313 0.125 0.0150
  2   12.0      7.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.010 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.50 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  5.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
```

BASIN A - WESTERLY BASIN

```
****************************************************************************
  FLOW PROCESS FROM NODE      1.00 TO NODE      2.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
  SOIL CLASSIFICATION IS "D"
  S.C.S. CURVE NUMBER (AMC II) =  84
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   161.00
  UPSTREAM ELEVATION(FEET) =   2110.00
  DOWNSTREAM ELEVATION(FEET) =   2087.90
  ELEVATION DIFFERENCE(FEET) =     22.10
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.348
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  8.830
  SUBAREA RUNOFF(CFS) =      1.06
  TOTAL AREA(ACRES) =      0.26   TOTAL RUNOFF(CFS) =       1.06
```

```
****************************************************************************
 FLOW PROCESS FROM NODE      2.00 TO NODE      3.00 IS CODE =  62
----------------------------------------------------------------------------
 >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>(STREET TABLE SECTION #  2 USED)<<<<<
============================================================================
 UPSTREAM ELEVATION(FEET) = 2087.90  DOWNSTREAM ELEVATION(FEET) = 2067.20
 STREET LENGTH(FEET) =   285.00   CURB HEIGHT(INCHES) =  6.0
 STREET HALFWIDTH(FEET) = 12.00

 DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   7.00
 INSIDE STREET CROSSFALL(DECIMAL) =  0.020
 OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

 SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
 STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
 Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150
 Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

   **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.42
   STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
   STREET FLOW DEPTH(FEET) =  0.14
   HALFSTREET FLOOD WIDTH(FEET) =    7.27
   AVERAGE FLOW VELOCITY(FEET/SEC.) =    4.57
   PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.62
 STREET FLOW TRAVEL TIME(MIN.) =   1.04   Tc(MIN.) =   6.39
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.875
 RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
 SOIL CLASSIFICATION IS "D"
 S.C.S. CURVE NUMBER (AMC II) =  84
 AREA-AVERAGE RUNOFF COEFFICIENT =  0.460
 SUBAREA AREA(ACRES) =    0.75     SUBAREA RUNOFF(CFS) =    2.72
 TOTAL AREA(ACRES) =      1.01     PEAK FLOW RATE(CFS) = 3.66

 END OF SUBAREA STREET FLOW HYDRAULICS:
 DEPTH(FEET) = 0.16   HALFSTREET FLOOD WIDTH(FEET) =   8.47
 FLOW VELOCITY(FEET/SEC.) =  5.10   DEPTH*VELOCITY(FT*FT/SEC.) =   0.81
 LONGEST FLOWPATH FROM NODE     1.00 TO NODE      3.00 =   446.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      3.00 TO NODE      3.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   6.39
 RAINFALL INTENSITY(INCH/HR) =   7.88
 TOTAL STREAM AREA(ACRES) =     1.01
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       3.66
```

```
****************************************************************************
 FLOW PROCESS FROM NODE      4.00 TO NODE      5.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
 RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
 SOIL CLASSIFICATION IS "D"
 S.C.S. CURVE NUMBER (AMC II) =  84
 INITIAL SUBAREA FLOW-LENGTH(FEET) =    55.00
 UPSTREAM ELEVATION(FEET) =   2093.50
 DOWNSTREAM ELEVATION(FEET) =   2087.90
 ELEVATION DIFFERENCE(FEET) =      5.60
 SUBAREA OVERLAND TIME OF FLOW(MIN.) =    3.966
 WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  9.222
 NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
 SUBAREA RUNOFF(CFS) =      0.11
 TOTAL AREA(ACRES) =      0.03   TOTAL RUNOFF(CFS) =        0.11
```

```
****************************************************************************
 FLOW PROCESS FROM NODE      5.00 TO NODE      3.00 IS CODE =  62
----------------------------------------------------------------------------
 >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>(STREET TABLE SECTION #  2 USED)<<<<<
============================================================================
 UPSTREAM ELEVATION(FEET) = 2087.90  DOWNSTREAM ELEVATION(FEET) = 2067.20
 STREET LENGTH(FEET) =   285.00   CURB HEIGHT(INCHES) =  6.0
 STREET HALFWIDTH(FEET) = 12.00

 DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   7.00
 INSIDE STREET CROSSFALL(DECIMAL) =  0.020
 OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

 SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
 STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
 Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150
 Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

   **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       0.44
   STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
   STREET FLOW DEPTH(FEET) =  0.07
   HALFSTREET FLOOD WIDTH(FEET) =    3.82
   AVERAGE FLOW VELOCITY(FEET/SEC.) =    3.03
   PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    0.20
 STREET FLOW TRAVEL TIME(MIN.) =   1.57   Tc(MIN.) =   5.53
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  8.639
 RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
 SOIL CLASSIFICATION IS "D"
 S.C.S. CURVE NUMBER (AMC II) =  84
 AREA-AVERAGE RUNOFF COEFFICIENT =  0.460
 SUBAREA AREA(ACRES) =    0.17     SUBAREA RUNOFF(CFS) =    0.68
 TOTAL AREA(ACRES) =      0.20   PEAK FLOW RATE(CFS) =     0.77

 END OF SUBAREA STREET FLOW HYDRAULICS:
 DEPTH(FEET) = 0.09   HALFSTREET FLOOD WIDTH(FEET) =   4.75
 FLOW VELOCITY(FEET/SEC.) =  3.43   DEPTH*VELOCITY(FT*FT/SEC.) =   0.29
 LONGEST FLOWPATH FROM NODE     4.00 TO NODE      3.00 =   340.00 FEET.
```

```
****************************************************************************
  FLOW PROCESS FROM NODE      3.00 TO NODE      3.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   5.53
  RAINFALL INTENSITY(INCH/HR) =   8.64
  TOTAL STREAM AREA(ACRES) =     0.20
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      0.77

  ** CONFLUENCE DATA **
  STREAM      RUNOFF       Tc       INTENSITY       AREA
  NUMBER       (CFS)     (MIN.)    (INCH/HOUR)     (ACRE)
      1         3.66      6.39         7.875          1.01
      2         0.77      5.53         8.639          0.20

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM      RUNOFF       Tc       INTENSITY
  NUMBER       (CFS)     (MIN.)    (INCH/HOUR)
      1         3.94      5.53         8.639
      2         4.37      6.39         7.875

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       4.37   Tc(MIN.) =    6.39
  TOTAL AREA(ACRES) =      1.21
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE      3.00 =   446.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE      3.00 TO NODE      6.00 IS CODE =  62
----------------------------------------------------------------------------
 >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>(STREET TABLE SECTION #  1 USED)<<<<<
============================================================================
 UPSTREAM ELEVATION(FEET) = 2067.20  DOWNSTREAM ELEVATION(FEET) = 2057.00
 STREET LENGTH(FEET) =   205.00   CURB HEIGHT(INCHES) =  6.0
 STREET HALFWIDTH(FEET) = 16.00

 DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =  10.00
 INSIDE STREET CROSSFALL(DECIMAL) =  0.020
 OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

 SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
 STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
 Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150
 Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

   **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       4.67
   STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
   STREET FLOW DEPTH(FEET) =  0.31
   HALFSTREET FLOOD WIDTH(FEET) =    9.24
   AVERAGE FLOW VELOCITY(FEET/SEC.) =    4.80
   PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    1.49
 STREET FLOW TRAVEL TIME(MIN.) =   0.71   Tc(MIN.) =   7.10
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.357
 RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
 SOIL CLASSIFICATION IS "D"
 S.C.S. CURVE NUMBER (AMC II) =  84
 AREA-AVERAGE RUNOFF COEFFICIENT =  0.460
 SUBAREA AREA(ACRES) =    0.18     SUBAREA RUNOFF(CFS) =    0.61
 TOTAL AREA(ACRES) =      1.38   PEAK FLOW RATE(CFS) =   4.69

 END OF SUBAREA STREET FLOW HYDRAULICS:
 DEPTH(FEET) = 0.31   HALFSTREET FLOOD WIDTH(FEET) =   9.24
 FLOW VELOCITY(FEET/SEC.) =  4.82   DEPTH*VELOCITY(FT*FT/SEC.) =   1.50
 LONGEST FLOWPATH FROM NODE    1.00 TO NODE      6.00 =   651.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      6.00 TO NODE      6.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   7.10
 RAINFALL INTENSITY(INCH/HR) =   7.36
 TOTAL STREAM AREA(ACRES) =     1.38
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       4.69
```

```
****************************************************************************
 FLOW PROCESS FROM NODE      7.00 TO NODE      8.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
 RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
 SOIL CLASSIFICATION IS "D"
 S.C.S. CURVE NUMBER (AMC II) =  84
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   285.00
 UPSTREAM ELEVATION(FEET) =   2091.50
 DOWNSTREAM ELEVATION(FEET) =   2062.00
 ELEVATION DIFFERENCE(FEET) =     29.50
 SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.348
 WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
          THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
          (Reference: Table 3-1B of Hydrology Manual)
          THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  8.830
 SUBAREA RUNOFF(CFS) =      1.67
 TOTAL AREA(ACRES) =      0.41   TOTAL RUNOFF(CFS) =       1.67
```

```
****************************************************************************
  FLOW PROCESS FROM NODE       8.00 TO NODE       6.00 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) = 2062.00  DOWNSTREAM ELEVATION(FEET) = 2057.00
  STREET LENGTH(FEET) =   205.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 20.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =  15.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.52
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.32
    HALFSTREET FLOOD WIDTH(FEET) =    9.54
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    3.43
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    1.09
  STREET FLOW TRAVEL TIME(MIN.) =   1.00   Tc(MIN.) =   6.34
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.908
  RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
  SOIL CLASSIFICATION IS "D"
  S.C.S. CURVE NUMBER (AMC II) =  84
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.460
  SUBAREA AREA(ACRES) =    1.02     SUBAREA RUNOFF(CFS) =    3.71
  TOTAL AREA(ACRES) =      1.43     PEAK FLOW RATE(CFS) =   5.20

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.35   HALFSTREET FLOOD WIDTH(FEET) =  11.30
  FLOW VELOCITY(FEET/SEC.) =  3.73   DEPTH*VELOCITY(FT*FT/SEC.) =   1.31
  LONGEST FLOWPATH FROM NODE     7.00 TO NODE      6.00 =   490.00 FEET.
```

```
****************************************************************************
  FLOW PROCESS FROM NODE      6.00 TO NODE      6.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   6.34
  RAINFALL INTENSITY(INCH/HR) =   7.91
  TOTAL STREAM AREA(ACRES) =     1.43
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      5.20

  ** CONFLUENCE DATA **
  STREAM      RUNOFF       Tc       INTENSITY      AREA
  NUMBER       (CFS)     (MIN.)    (INCH/HOUR)    (ACRE)
      1         4.69      7.10         7.357          1.38
      2         5.20      6.34         7.908          1.43

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM      RUNOFF       Tc       INTENSITY
  NUMBER       (CFS)     (MIN.)    (INCH/HOUR)
      1         9.56      6.34         7.908
      2         9.53      7.10         7.357

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      9.56   Tc(MIN.) =     6.34
  TOTAL AREA(ACRES) =      2.82
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE      6.00 =   651.00 FEET.
```

BASIN B - NORTHERLY BASIN

```
****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     11.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
  SOIL CLASSIFICATION IS "D"
  S.C.S. CURVE NUMBER (AMC II) =  84
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   110.00
  UPSTREAM ELEVATION(FEET) =   2091.50
  DOWNSTREAM ELEVATION(FEET) =   2075.00
  ELEVATION DIFFERENCE(FEET) =     16.50
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.348
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  8.830
  SUBAREA RUNOFF(CFS) =      2.19
  TOTAL AREA(ACRES) =      0.54   TOTAL RUNOFF(CFS) =       2.19
```

BASIN C - SOUTHERLY BASIN

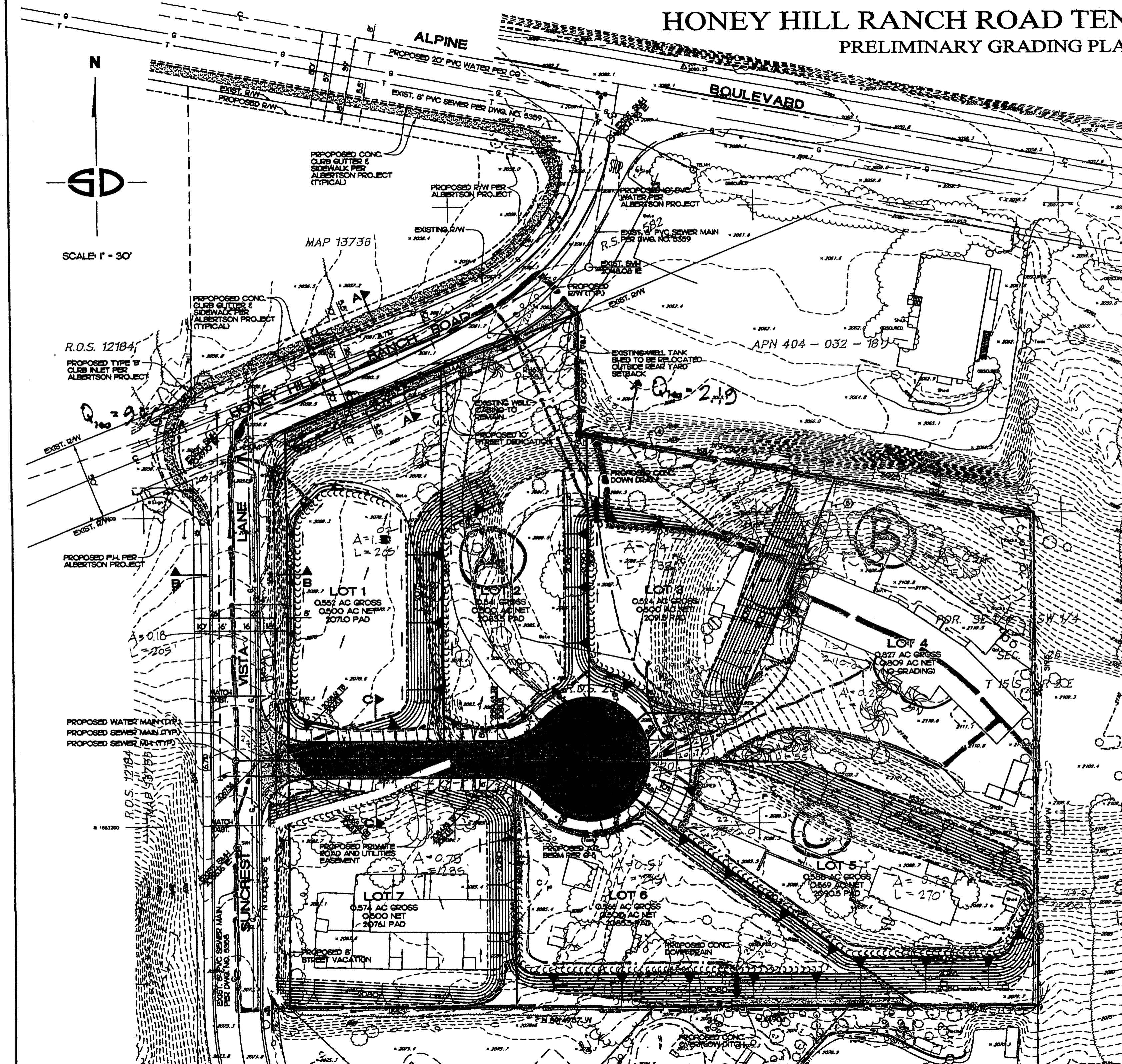
```
****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     21.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
  SOIL CLASSIFICATION IS "D"
  S.C.S. CURVE NUMBER (AMC II) =  84
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   245.00
  UPSTREAM ELEVATION(FEET) =   2086.00
  DOWNSTREAM ELEVATION(FEET) =   2084.00
  ELEVATION DIFFERENCE(FEET) =      2.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    9.757
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    62.65
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.992
  SUBAREA RUNOFF(CFS) =      1.41
  TOTAL AREA(ACRES) =      0.51   TOTAL RUNOFF(CFS) =       1.41

****************************************************************************
  FLOW PROCESS FROM NODE     22.00 TO NODE     23.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  RESIDENTIAL (2. DU/AC OR LESS) RUNOFF COEFFICIENT = .4600
  SOIL CLASSIFICATION IS "D"
  S.C.S. CURVE NUMBER (AMC II) =  84
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   270.00
  UPSTREAM ELEVATION(FEET) =   2092.00
  DOWNSTREAM ELEVATION(FEET) =   2090.00
  ELEVATION DIFFERENCE(FEET) =      2.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    9.832
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =    59.63
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.962
  SUBAREA RUNOFF(CFS) =      1.92
  TOTAL AREA(ACRES) =      0.70   TOTAL RUNOFF(CFS) =       1.92
```

POST-DEVELOPMENT TOTALS

TOTAL AREA (ACRES) = 4.57
TOTAL RUNOFF (CFS) = 15.08

HONEY HILL RANCH ROAD TENTATIVE MAP

PRELIMINARY GRADING PLAN



BASIN	(AC.) AREA	(CFS) Q_{100}
A	2.82	9.56
B	0.54	2.19
C	1.21	3.33
	4.57	15.08

EASEMENT DATA

(4) AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES TO SAN DIEGO GAS AND ELECTRIC COMPANY, RECORDED NOVEMBER 20, 1928 AS BOOK 1561, PAGE 5 OF DEEDS.

(5) AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES TO SAN DIEGO GAS AND ELECTRIC COMPANY, RECORDED APRIL 24, 1951 IN BOOK 4071, PAGE 63 OF OFFICIAL RECORDS.

LEGAL DESCRIPTION

A PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 26, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PROJECT INFORMATION

ASSESSOR'S PARCEL NUMBERS: 404–032–73

TAX RATE AREA: 51012

REGIONAL PLAN DESIGNATION: CT, COUNTRY TOWN

COMMUNITY PLAN AREA: ALPINE

GENERAL PLAN DESIGNATION: NO. 3, RESIDENTIAL

EXISTING ZONING: (SEE BOX)

PROPOSED ZONING: (SEE BOX – NO CHANGE)

WATER: PADRE DAM MUNICIPAL WATER DISTRICT

SEWER: ALPINE SANITATION DISTRICT

FIRE DISTRICT: ALPINE FIRE PROTECTION DISTRICT

SCHOOL DISTRICT: ALPINE UNION SCHOOL DISTRICT (K–8), GROSSMONT UNION HIGH SCHOOL DISTRICT (9–12)

STREET LIGHTING: COUNTY OF SAN DIEGO

ACCESS: SUNCREST VISTA LANE, COUNTY MAINTAINED ROAD

SITE ADDRESS: 3087 HONEY HILL RANCH ROAD, ALPINE, CA

ASSOCIATED PERMITS: NONE

GRADING: CUT 8,250 C.Y.
FILL 8,250 C.Y.
EXPORT 0 C.Y.

TOPOGRAPHY: PROVIDED SAN–LO AERIAL SURVEYS, DATED 12–21–04.

SOLAR STATEMENT: ALL LOTS WITHIN THIS SUBDIVISION HAVE A MINIMUM OF 100 SQUARE FEET OF SOLAR ACCESS FOR EACH FUTURE DWELLING/COMMERCIAL/INDUSTRIAL/UNIT ALLOWED BY THIS SUBDIVISION.

ZONING DATA		EXIST.	PROP.
USE REGULATIONS		RR2	RR2
NEIGHBORHOOD REGS.		J	J
DEVELOPMENT REGULATIONS	DENSITY	2	2
	LOT SIZE	0.5 AC	0.5 AC
	BUILDING TYPE	C	C
	MAX. FLOOR AREA	--	--
	FLOOR AREA RATIO	--	--
	HEIGHT	G	G
	LOT COVERAGE	--	--
	SET BACK	G	G
	OPEN SPACE	--	--
SPECIAL AREA REGS.		--	--

GENERAL NOTES

1. ALL AREAS NOTED ARE GROSS AND NET, UNLESS OTHERWISE NOTED.
2. THE DEVELOPER SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED IN THE COUNTY STANDARDS FOR THE LOCATION OF STREET LIGHTS.
3. THE DEVELOPER SHALL PAY PARK FEES IN LIEU OF PARK LAND DEDICATION.
4. NO SPECIAL ASSESSMENTS WILL BE MADE ORREQUESTED.
5. PROJECT DATA: 4.20 ACRES GROSS, 3.88 ACRES NET.
6. MINIMUM LOT SIZE = 0.500 ACRES.
7. TOTAL LOTS / DU'S = 7.

UTILITY NOTES

1. WATER SYSTEM TO BE INSTALLED PER PADRE DAM MUNICIPAL WATER DISTRICT STANDARDS.
2. SEWER SYSTEM TO BE INSTALLED PER ALPINE SANITIATION DISTRICT STANDARDS.
3. PROPOSED DRY UTILITIES SHALL BE PLACED UNDERGROUND ACCORDING TO COUNTY STANDARDS.

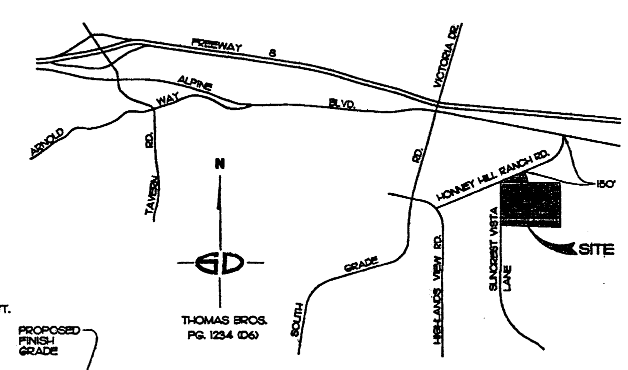
OWNER / SUBDIVIDER / APPLICANT

MICHAEL J. TOBY
JOYCE TOBY
3087 HONNEY HILL RANCH ROAD
ALPINE, CA 91901
PHONE: 619/659-0164

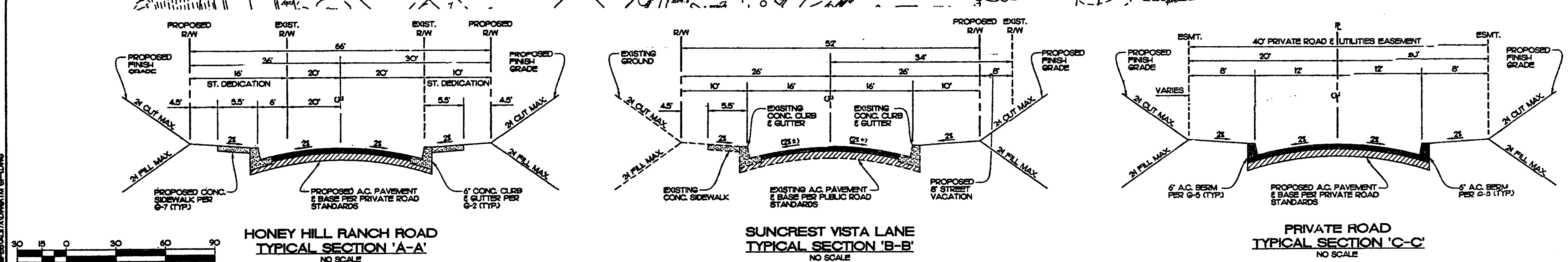
MICHAEL J. TOBY JOYCE TOBY

PRELIMINARY GRADING PLAN NOTES:

1. THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AND APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN A VALID GRADING PERMIT BEFORE COMMENCING SUCH ACTIVITY.
2. ALL CUT / FILL SLOPES ARE 2:1 MAXIMUM, UNLESS OTHERWISE SHOWN.
3. ALL LOTS WILL HAVE ACCESS VIA A 16' WIDE MINIMUM ASPHALT CONCRETE DRIVEWAY.
4. ALL DRIVEWAYS SHALL BE CONSTRUCTED PER DS-7 WITH A MAXIMUM GRADE OF 20%.



VICINITY MAP
NO SCALE



HONEY HILL RANCH ROAD
TYPICAL SECTION 'A-A'
NO SCALE

SUNCREST VISTA LANE
TYPICAL SECTION 'B-B'
NO SCALE

PRIVATE ROAD
TYPICAL SECTION 'C-C'
NO SCALE

ENGINEER OF WORK

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE. G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-05

REGISTERED PROFESSIONAL ENGINEER · WILLIAM A. SNIPES · No. 50477 · Exp. 06-30-05 · CIVIL · STATE OF CALIFORNIA

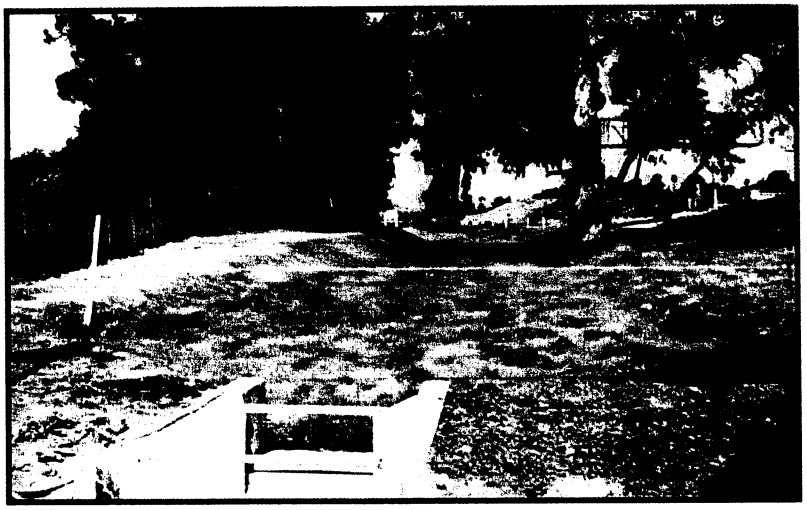
POST-DEVELOPMENT

PRELIMINARY GRADING PLAN
HONEY HILL RANCH ROAD

SHEET 1 OF 1 SHEETS

APPENDIX B

Vegetated Swale TC-30



Maintenance Concerns, Objectives, and Goals

- Channelization
- Vegetation/Landscape Maintenance
- Vector Control
- Aesthetics
- Hydraulic and Removal Efficacy

General Description

Vegetated swales are open, shallow channels with vegetation covering the side slopes and bottom that collect and slowly convey runoff flow to downstream discharge points. They are designed to treat runoff through filtering by the vegetation in the channel, filtering through a subsoil matrix, and/or infiltration into the underlying soils. Swales can be natural or manmade. They trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of stormwater runoff. Vegetated swales can serve as part of a stormwater drainage system and can replace curbs, gutters and storm sewer systems. Therefore, swales are best suited for residential, industrial, and commercial areas with low flow and smaller populations.

Targeted Constituents

☑	Sediment	▲
☑	Nutrients	●
☑	Trash	●
☑	Metals	▲
☑	Bacteria	●
☑	Oil and Grease	▲
☑	Organics	▲
☑	Oxygen Demanding	▲

Legend ***(Removal Effectiveness)***

● Low ■ High

▲ Medium

Inspection/Maintenance Considerations

It is important to consider that a thick vegetative cover is needed for vegetated swales to function properly. Usually, swales require little more than normal landscape maintenance activities such as irrigation and mowing to maintain pollutant removal efficiency. Swales can become a nuisance due to mosquito breeding in standing water if obstructions develop (e.g., debris accumulation, invasive vegetation) and/or if proper drainage slopes are not implemented and maintained. The application of fertilizers and pesticides should be minimized.

■ Inspect after seeding and after first major storms for any damages.	Post construction
■ Inspect for signs of erosion, damage to vegetation, channelization of flow, debris and litter, and areas of sediment accumulation. Perform inspections at the beginning and end of the wet season. Additional inspections after periods of heavy runoff are desirable.	Semi-annual
■ Inspect level spreader for clogging, grass along side slopes for erosion and formation of rills or gullies, and sand/soil bed for erosion problems.	Annual
■ Mow grass to maintain a height of 3–4 inches, for safety, aesthetic, or other purposes. Litter should always be removed prior to mowing. Clippings should be composted. ■ Irrigate swale during dry season (April through October) or when necessary to maintain the vegetation. ■ Provide weed control, if necessary to control invasive species.	As needed (frequent, seasonally)
■ Remove litter, branches, rocks blockages, and other debris and dispose of properly. ■ Maintain inlet flow spreader (if applicable). ■ Repair any damaged areas within a channel identified during inspections. Erosion rills or gullies should be corrected as needed. Bare areas should be replanted as necessary.	Semi-annual
■ Declog the pea gravel diaphragm, if necessary. ■ Correct erosion problems in the sand/soil bed of dry swales. ■ Plant an alternative grass species if the original grass cover has not been successfully established. Reseed and apply mulch to damaged areas.	Annual (as needed)
■ Remove all accumulated sediment that may obstruct flow through the swale. Sediment accumulating near culverts and in channels should be removed when it builds up to 3 in. at any spot, or covers vegetation, or once it has accumulated to 10% of the original design volume. Replace the grass areas damaged in the process. ■ Rototill or cultivate the surface of the sand/soil bed of dry swales if the swale does not draw down within 48 hours.	As needed (infrequent)

Additional Information

Recent research (Colwell et al., 2000) indicates that grass height and mowing frequency have little impact on pollutant removal. Consequently, mowing may only be necessary once or twice a year for safety or aesthetics or to suppress weeds and woody vegetation.

References

Metropolitan Council, Urban Small Sites Best Management Practices Manual. Available at: http://www.metrocouncil.org/environment/Watershed/BMP/manual.htm

U.S. Environmental Protection Agency, Post-Construction Stormwater Management in New Development & Redevelopment BMP Factsheets. Available at: cfpub.epa.gov/npdes/stormwater/menuofbmps/bmp_files.cfm

Ventura Countywide Stormwater Quality Management Program, Technical Guidance Manual for Stormwater Quality Control Measures. July, 2002.

APPENDIX C

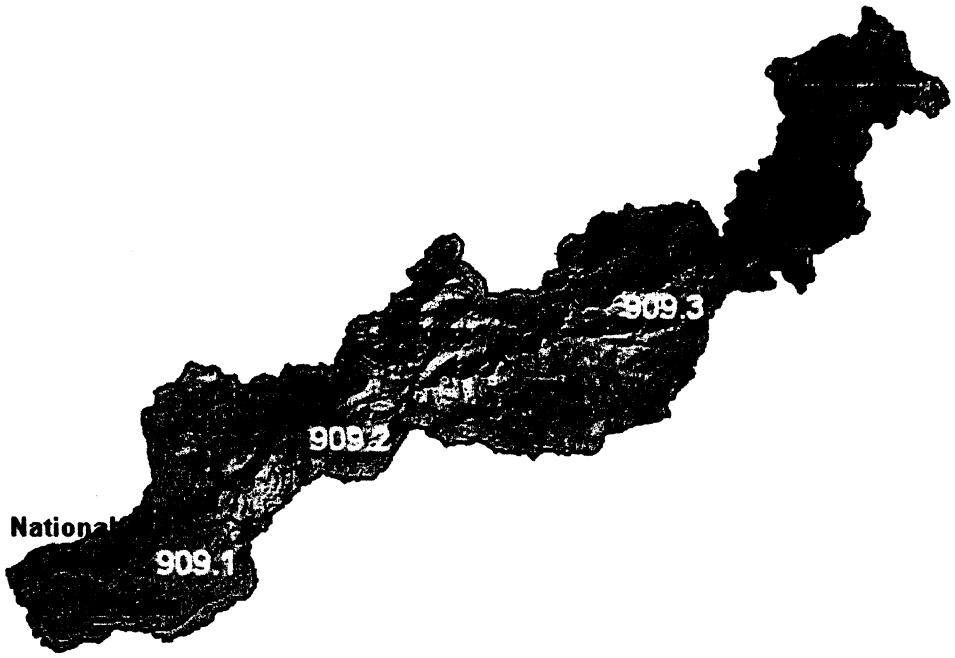
project clean water

clean water through local commitment and action

Home
Overview
Planning Efforts
Watersheds
San Juan
Santa Margarita
San Luis Rey
Carlsbad
San Dieguito
Penasquitos
San Diego
Pueblo
Sweetwater
Otay
Tijuana
For Kids
Report Dumping
Search

Sweetwater Watershed

Plan Projects Activities



Hydrologic Unit 909.11 - 909.35

Hydrologic Areas:	Lower Sweetwater Middle Sweetwater Upper Sweetwater	909.1 909.2 909.3
Major Water Bodies:	Sweetwater River, Sweetwater Reservoir, Loveland Reservoir, and San Diego Bay	
CWA 303(d) List:	San Diego Bay/ Telegraph: coliform bacteria	
Major Impacts:	Surface and groundwater quality degradation, habitat degradation and loss, and invasive species	
Constituents of Concern:	coliform bacteria, trace metals and other toxics	
Sources / Activities:	agricultural and urban runoff	

The Sweetwater River watershed along with the Otay and Pueblo San Diego watersheds combine to form the San Diego Bay watershed area. The Sweetwater River watershed is the largest of the three encompassing 230 of the approximately 415 square mile total. Over 86% of the watershed is within unincorporated jurisdictions. The dominant land uses in the Sweetwater River watershed are urban (29%), open space/ agriculture (22%), and undeveloped (49%). Approximately two-thirds of the land area categorized as urban is composed of residential communities. Approximately 300,000 people currently reside within the Sweetwater River watershed, and this

amount is projected to increase to 365,000 by 2015. The most important watershed issues are related to the protection of municipal water supplies, and the protection and restoration of sensitive wetland and wildlife habitats.

Between the headwaters and the outlet to San Diego Bay, the watershed contains a variety of habitat types including oak and pine woodlands, riparian forest, chaparral, coastal sage scrub, and coastal salt marsh. The upper watershed contains large undeveloped areas within the Cleveland National Forest and Cuyamaca Rancho State Park, the unincorporated communities of Pine Valley, Descanso, and Alpine, and the Viejas Indian Reservation. Unincorporated rural and suburban communities characterize the central part of the watershed. The urbanized lower portion of the Sweetwater watershed contains portions of several cities including San Diego, National City, Chula Vista, La Mesa, and Lemon Grove. Of the cities within the watershed, Chula Vista is the most important in terms of land area.

There are many beneficial water uses within the Sweetwater Watershed as designated in the State Water Resources Control Board's San Diego Region Basin Plan.

project clean water

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Sweetwater Watershed

Beneficial Water Uses

Beneficial water uses within the Sweetwater Watershed as designated in the State Water Resources Control Board's San Diego Region Basin Plan.

Beneficial Uses	Inland Surface Water	Coastal Waters	Reservoirs and Lakes	Ground Water
Municipal and Domestic Supply	X		X	X
Agricultural Supply	X		X	X
Industrial Service Supply	X	X	X	X
Industrial Process Supply	X		X	
Navigation		X		
Contact Water Recreation	X	X	X	
Non-Contact Water Recreation	X	X	X	
Commercial and Sport Fishing		X		
Biological Habitats of Special Signif.	X	X		
Warm Freshwater Habitat	X		X	
Cold Freshwater Habitat	X		X	
Wildlife Habitat	X	X	X	
Rare, Threatened, or End.	X	X		
Marine Habitat		X		
Migration of Aquatic Organisms		X		
Estuarine Habitat		X		
Shellfish Harvesting		X		

Summary of beneficial use designations.

[redacted]

Plan Projects Activities

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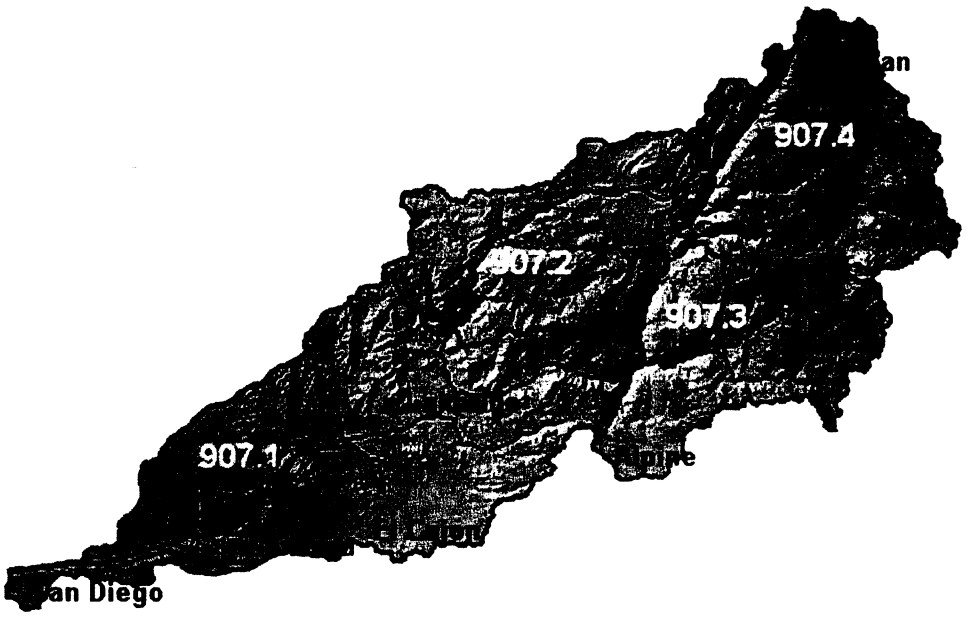
San Diego River Watershed

Plan Projects Activities

Notice **San Diego Fire Recovery Network**

Home
Overview
Planning Efforts
Watersheds
San Juan
Santa Margarita
San Luis Rey
Carlsbad
San Dieguito
Penasquitos
San Diego
Pueblo
Sweetwater
Otay
Tijuana
For Kids
Report Dumping
Search



Hydrologic Unit 907.11 - 907.43

Hydrologic Areas:	Lower San Diego 907.1 San Vincente 907.2 El Capitan 907.3 Boulder Creek 907.4
Major Water Bodies:	San Diego River, El Capitan Reservoir, San Vincente Reservoir, Lake Murray, Boulder Creek, Santee Lakes
CWA 303(d) List:	Pacific Ocean at San Diego River mouth: coliform bacteria
Major Impacts:	Surface water quality degradation, habitat degradation and loss, sediment, invasive species, eutrophication, and flooding
Constituents of Concern:	Coliform bacteria, TDS, nutrients, petroleum chemicals, toxics, and trash
Sources / Activities:	Urban runoff, agricultural runoff, mining operations, sewage spills, and sand mining

With a land area of approximately 440 square miles, the San Diego River watershed is the second largest hydrologic unit (HU) in San Diego County. It also has the highest population (~475,000) of the County's watersheds and contains portions of the cities of San Diego, El Cajon, La Mesa, Poway, and Santee and several unincorporated

jurisdictions. Important hydrologic resources in the watershed include five water storage reservoirs, a large groundwater aquifer, extensive riparian habitat, coastal wetlands, and tidepools. Approximately 58.4% of the San Diego River watershed is currently undeveloped. The majority of this undeveloped land is in the upper, eastern portion of the watershed, while the lower reaches are more highly urbanized with residential (14.9%), freeways and roads (5.5%), and commercial/ industrial (4.2%) land uses predominating.

The five reservoirs in the San Diego River watershed supply water to as many as 760,000 residents in the region. Other areas including the Cleveland National Forest, Mission Trails Regional Park, and the river flood plain near Lakeside represent three important undeveloped areas that host a wide variety of intact habitats and endangered species like the arroyo toad, least bell's vireo, and the southwestern pond turtle. In addition, Famosa Slough, near the mouth of the San Diego River contains extremely productive wetlands habitat.

The mouth of the river discharges into the Pacific Ocean at the community of Ocean Beach. Beach postings and closures from elevated levels of coliform bacteria more than doubled between 1996 and 1999 due to urban runoff and sewage spills. Discharge from the San Diego River outlet may also influence water quality in other nearby coastal areas including Sunset Cliffs, Pacific Beach, and Mission Beach. The extensive groundwater resources beneath the San Diego River provide a cost effective and reliable water supply to four local water districts and the City of San Diego. Excessive extraction, increasing total dissolved solids, and MTBE contamination now threatens this resource.

There are many beneficial water uses within the San Diego River Watershed as designated in the State Water Resources Control Board's San Diego Region Basin Plan.

Satellite photo of the mouth of the San Diego River.

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Home
Overview
Planning Efforts
Watersheds
San Juan
Santa Margarita
San Luis Rey
Carlsbad
San Dieguito
Penasquitos
San Diego
Pueblo
Sweetwater
Otay
Tijuana
For Kids
Report Dumping
Search

San Diego River Watershed

Beneficial Water Uses

Plan Projects Activities

Return to San Diego River Watershed page

Beneficial water uses within the San Diego River Watershed as designated in the State Water Resources Control Board's San Diego Region Basin Plan.

Beneficial Uses	Inland Surface Water	Coastal Waters	Reservoirs and Lakes	Ground Water
Municipal and Domestic Supply	X		X	X
Agricultural Supply	X			X
Industrial Service Supply	X	X	X	X
Industrial Process Supply	X		X	X
Navigation		X		
Contact Water Recreation	X	X	X	
Non-Contact Water Recreation	X	X	X	
Commercial and Sport Fishing		X		
Warm Freshwater Habitat	X		X	
Cold Freshwater Habitat	X		X	
Estuarine Habitat		X		
Wildlife Habitat	X	X	X	
Biological Habitats		X		
Rare, Threatened, or End.		X	X	
Marine Habitat		X		
Migration of Aquatic Organisms		X		
Aquaculture		X		
Shellfish Harvesting		X		
Spawning, Reprod. and/ or Early Develop.		X		

Hydropower Generation			x	

Summary of beneficial use designations.

Plan	Projects	Activities

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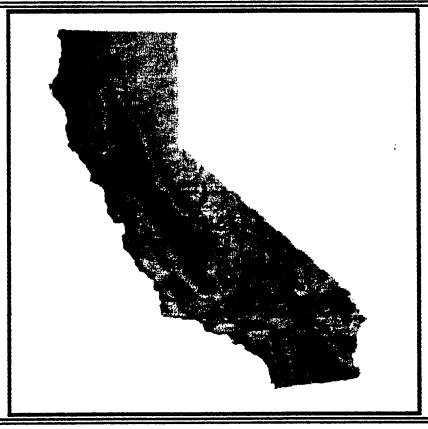
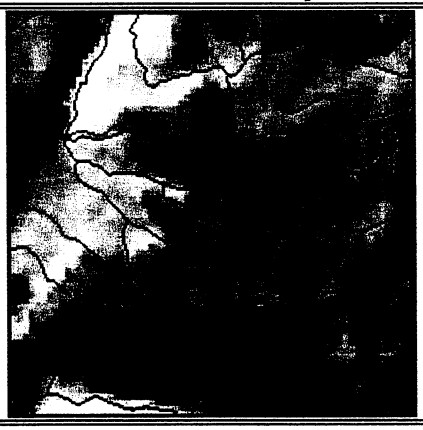
APPENDIX D

Water Quality Standards Inventory Database

Click on the links below to search for another waterbody.	Click on the links below to view water quality parameters for Alpine Creek.	Click on the links below to view comments and corrections logged or to navigate to the comments and corrections input page.
Search by Beneficial Uses	Beneficial Uses	Comments and Corrections Logged
Search by Keyword	Water Quality Objectives	Comments and Corrections Input Page
Search by SWRCB Region	Water Quality Narrative Constituents	
Search by Caltrans District	Water Quality Numeric Criteria	
Search by County	Water Quality Bacteria Criteria	

Alpine Creek

Water Quality Control Board Region: Click on the region number for a list of waterbodies and reported hydrologic units in that region.	9	
Hydrologic Units: Click on the reported hydrologic unit for a list of waterbodies in that unit.	Reported Hydrologic Units	Published Hydrologic Units
	907.33	907.33
Caltrans District: Click on the Caltrans district for a list of waterbodies and reported hydrologic units in that district.	11	
Counties: Click on the reported county name for a list of waterbodies and reported hydrologic units in that county. *Please note that reported and published counties are associated with hydrologic unit, not waterbody.	Reported Counties	Published Counties
SAN DIEGO	SAN DIEGO	

Location Map	Watershed Map
	

Geospatial Waterbody System Assessment Data

ALPINE CREEK
(Includes 305(b) and 303(d) Determinations)

Waterbody Beneficial Uses

RWQCB Beneficial Use Click on the beneficial use for the beneficial use code and description.	Use Status Potential or Existing

Agricultural Supply	Existing
Cold Freshwater Habitat	Existing
Industrial Service Supply	Existing
Municipal and Domestic Supply	Existing
Industrial Process Supply	Existing
Non-Contact Water Recreation	Existing
Warm Freshwater Habitat	Existing
Wildlife Habitat	Existing

Water Quality Objectives

Waterbody Reach	Beneficial Use	Constituent	Constituent Concentration	Constituent Units	Constituent Details	Constituent Comments
*No WQOs Available						

Water Quality Narrative Constituents

Constituent Name	Constituent Description
Biostimulatory Substances	Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses.
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.The natural color of fish, shellfish or other resources in inland surface waters, coastal lagoon or bay and estuary shall not be impaired.
DO	The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.
Floating Material	Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations which result in a visible film or coating on the surface of the water or on objects in the water, or which cause nuisance or which otherwise adversely affect beneficial uses.
pH	The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.Changes in normal ambient pH levels shall not exceed 0.2 units in waters with designated marine (MAR), or estuarine (EST), or saline (SAL) beneficial uses. Changes in normal ambient pH levels shall not exceed 0.5 units in fresh waters with designated cold freshwater habitat (COLD) or warm freshwater habitat (WARM) beneficial uses. In bays and estuaries the pH shall not be depressed below 7.0 nor raised above 9.0. In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.
Radioactivity	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Suspended Solids	Waters shall not contain suspended and settlable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods

	as specified by the Regional Board. The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements specified in US EPA, State Water Resources Control Board. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour acute bioassay. In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.
Temperature	The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any COLD water be increased more than 5F above the natural receiving water temperature.
Taste and Odor	Waters shall not contain taste or odor producing substances at concentrations which cause a nuisance or adversely affect beneficial uses. The natural taste and odor of fish, shellfish or other Regional water resources used for human consumption Shall not be impaired in inland surface waters and bays and estuaries.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Water Quality Numeric Criteria

Beneficial Use	Numeric Constituent Name	Numeric Constituent Detail	Numeric Constituent Maximum	Numeric Constituent Units	Numeric Constituent Comments	Numeric Constituent Reference
MUN	1,1,1-Trichloroethane	-	0.2	mg/L		TITLE22
MUN	1,1,2,2-Tetrachloroethane	-	0.001	mg/L		TITLE22
MUN	1,1,2-Trichloroethane	-	0.005	mg/L		TITLE22
MUN	1,1-Dichloroethane	-	0.005	mg/L		TITLE22
MUN	1,1-Dichloroethylene	-	0.006	mg/L		TITLE22
MUN	1,2,4-Trichlorobenzene	-	0.07	mg/L		TITLE22
MUN	1,2-Dibromo-3-chloropropane	-	0.0002	mg/L		TITLE22
MUN	1,2-Dichlorobenzene	-	0.6	mg/L		TITLE22
MUN	1,2-Dichloroethane	-	0.0005	mg/L		TITLE22
MUN	1,2-Dichloropropane	-	0.005	mg/L		TITLE22
MUN	1,3-Dichloropropene	-	0.0005	mg/L		TITLE22
MUN	1,4-Dichlorobenzene	-	0.005	mg/L		TITLE22
MUN	2,3,7,8-TCDD (Dioxin)	-	0.0000003	mg/L		TITLE22
MUN	2,4,5-TP (Silvex)	-	0.05	mg/L		TITLE22
MUN	2,4-D	-	0.07	mg/L		TITLE22
MUN	Alachlor	-	0.002	mg/L		TITLE22
MUN	Aluminum	-	1	mg/L		TITLE22
MUN	Antimony	-	0.006	mg/L		TITLE22
MUN	Arsenic	-	0.05	mg/L		TITLE22
MUN	Asbestos	-	7	MFL	Million fibers per liter	TITLE22
MUN	Atrazine	-	0.003	mg/L		TITLE22
MUN	Barium	-	1	mg/L		TITLE22
MUN	Bentazon	-	0.018	mg/L		TITLE22
MUN	Benzene	-	0.001	mg/L		TITLE22
MUN	Benzo(a)pyrene	-	0.0002	mg/L		TITLE22
MUN	Beryllium	-	0.004	mg/L		TITLE22

MUN	Cadmium	-	0.005	mg/L		TITLE22
MUN	Carbofuran	-	0.018	mg/L		TITLE22
MUN	Carbon Tetrachloride	-	0.0005	mg/L		TITLE22
MUN	Chlordane	-	0.0001	mg/L		TITLE22
MUN	Chromium	-	0.05	mg/L		TITLE22
MUN	cis-1,2-Dichloroethylene	-	0.006	mg/L		TITLE22
MUN	Copper	-	1.3	mg/L	in >10% of tap water samples collected	TITLE22, Pb&Cu Rule
MUN	Cyanide	-	0.2	mg/L		TITLE22
MUN	Dalapon	-	0.2	mg/L		TITLE22
MUN	Di(2-ethylhexyl)adipate	-	0.4	mg/L		TITLE22
MUN	Di(2-ethylhexyl)phthalate	-	0.004	mg/L		TITLE22
MUN	Dichloromethane	-	0.005	mg/L		TITLE22
MUN	Dinoseb	-	0.007	mg/L		TITLE22
MUN	Diquat	-	0.02	mg/L		TITLE22
MUN	Endothall	-	0.1	mg/L		TITLE22
MUN	Endrin	-	0.002	mg/L		TITLE22
MUN	Ethylbenzene	-	0.7	mg/L		TITLE22
MUN	Ethylene Dibromide	-	0.00005	mg/L		TITLE22
MUN	Fluoride	<53.7F	2.4	mg/L		
MUN	Fluoride	53.8F-58.3F	2.2	mg/L		
MUN	Fluoride	58.4F-63.8F	2	mg/L		
MUN	Fluoride	63.9F-70.6F	1.8	mg/L		
MUN	Fluoride	70.7F-79.2F	1.6	mg/L		
MUN	Fluoride	79.3F-90.5F	1.4	mg/L		
MUN	Freon 113	-	1.2	mg/L		TITLE22
MUN	Glyphosate	-	0.7	mg/L		TITLE22
MUN	Heptachlor	-	0.00001	mg/L		TITLE22
MUN	Heptachlor Epoxide	-	0.00001	mg/L		TITLE22
MUN	Hexachlorobenzene	-	0.001	mg/L		TITLE22
MUN	Hexachlorocyclopentadiene	-	0.05	mg/L		TITLE22
MUN	Lead	-	0.015	mg/L	in >10% of tap water samples collected	TITLE22, Pb&Cu Rule
MUN	Lindane	-	0.0002	mg/L		TITLE22
MUN	MBAS	-	0.5	0		
MUN	Mercury	-	0.002	mg/L		TITLE22
MUN	Methoxychlor	-	0.04	mg/L		TITLE22
MUN	Molinate	-	0.02	mg/L		TITLE22
MUN	Monochlorobenzene	-	0.07	mg/L		TITLE22
MUN	Nickel	-	0.1	mg/L		TITLE22
MUN	Nitrate (as NO3)	-	45	mg/L		TITLE22
MUN	Nitrate + Nitrite (sum as nitrogen)	-	10	mg/L		TITLE22
MUN	Nitrite (as nitrogen)	-	1	mg/L		TITLE22
MUN	Oxamyl	-	0.2	mg/L		TITLE22
MUN	PCBs	-	0.0005	mg/L		TITLE22
MUN	Pentachlorophenol	-	0.001	mg/L		TITLE22

MUN	Phenols	-	0.001	mg/L		
MUN	Picloram	-	0.5	mg/L		TITLE22
MUN	Selenium	-	0.05	mg/L		TITLE22
MUN	Simazine	-	0.004	mg/L		TITLE22
MUN	Styrene	-	0.1	mg/L		TITLE22
MUN	Tetrachloroethylene	-	0.005	mg/L		TITLE22
MUN	Thallium	-	0.002	mg/L		TITLE22
MUN	Thiobencarb	-	0.07	mg/L		TITLE22
MUN	Toluene	-	0.15	mg/L		TITLE22
MUN	Toxaphene	-	0.003	mg/L		TITLE22
MUN	trans-1,2-Dichloroethylene	-	0.01	mg/L		TITLE22
MUN	Trichloroethylene	-	0.005	mg/L		TITLE22
MUN	Trichlorofluoromethane	-	0.15	mg/L		TITLE22
MUN	Vinyl Chloride	-	0.0005	mg/L		TITLE22
MUN	Xylenes	-	1.75	mg/L		TITLE22
WARM	Dissolved Oxygen	-	-5	mg/L		
AGR	Boron	-	0.75	mg/L		Quality Criteria for Water, 1986 - Gold Book.

Water Quality Ammonia Criteria

Beneficial Use	Constituent Name	Constituent pH	Constituent Temperature	Constituent Time Duration	Constituent Concentration	Constituent Units
AGR	Ammonia as N	-	-	-	0.025	mg/L
COLD	Ammonia as N	-	-	-	0.025	mg/L
IND	Ammonia as N	-	-	-	0.025	mg/L
MUN	Ammonia as N	-	-	-	0.025	mg/L
PROC	Ammonia as N	-	-	-	0.025	mg/L
REC2	Ammonia as N	-	-	-	0.025	mg/L
WARM	Ammonia as N	-	-	-	0.025	mg/L
WILD	Ammonia as N	-	-	-	0.025	mg/L

Water Quality Bacteria Criteria

Beneficial Use	Constituent Name	Constituent Concentration Details	Constituent Concentration	Constituent Units	Constituent Comments	Constituent Reference
REC2	Fecal Coliform	Average-10% of Samples for 30 day	4000	Count per 100 ml	Average value. Based on more than 10 percent of total samples during any 30-day period.	
REC2	Fecal Coliform	Average-for 30 day	2000	Count per 100 ml	Average value. Based on samples for a 30-day period.	

Comments

Comments

Click above to go to the Comments input page.
***No Comments Available**

Water Quality Standards Inventory Database

Click on the links below to search for another waterbody.	Click on the links below to view water quality parameters for Viejas Creek.	Click on the links below to view comments and corrections logged or to navigate to the comments and corrections input page.
Search by Beneficial Uses	Beneficial Uses	Comments and Corrections
Search by Keyword	Water Quality Objectives	Comments and Corrections Input Page
Search by SWRCB Region	Water Quality Narrative Constituents	
Search by Caltrans District	Water Quality Numeric Criteria	
Search by County	Water Quality Bacteria Criteria	

Viejas Creek

Water Quality Control Board Region: Click on the region number for a list of waterbodies and reported hydrologic units in that region.	9	
Hydrologic Units: Click on the reported hydrologic unit for a list of waterbodies in that unit.	Reported Hydrologic Units	Published Hydrologic Units
	909.31	903.31
Caltrans District: Click on the Caltrans district for a list of waterbodies and reported hydrologic units in that district.	11	
Counties: Click on the reported county name for a list of waterbodies and reported hydrologic units in that county. *Please note that reported and published counties are associated with hydrologic unit, not waterbody.	Reported Counties	Published Counties
SAN DIEGO	SAN DIEGO	

Location Map	Watershed Map
	

Geospatial Waterbody System Assessment Data

VIEJAS CREEK
(Includes 305(b) and 303(d) Determinations)

Waterbody Beneficial Uses

RWQCB Beneficial Use Click on the beneficial use for the beneficial use code and description.	Use Status Potential or Existing

Agricultural Supply	Existing
Cold Freshwater Habitat	Existing
Industrial Service Supply	Existing
Municipal and Domestic Supply	Existing
Industrial Process Supply	Existing
Water Contact Recreation	Existing
Non-Contact Water Recreation	Existing
Warm Freshwater Habitat	Existing
Wildlife Habitat	Existing

Water Quality Objectives						
Waterbody Reach	**Beneficial Use**	**Constituent**	**Constituent Concentration**	**Constituent Units**	**Constituent Details**	**Constituent Comments**
***No WQOs Available**						

Water Quality Narrative Constituents	
Constituent Name	**Constituent Description**
Biostimulatory Substances	Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses.
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.The natural color of fish, shellfish or other resources in inland surface waters, coastal lagoon or bay and estuary shall not be impaired.
DO	The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.
Floating Material	Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations which result in a visible film or coating on the surface of the water or on objects in the water, or which cause nuisance or which otherwise adversely affect beneficial uses.
pH	The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.Changes in normal ambient pH levels shall not exceed 0.2 units in waters with designated marine (MAR), or estuarine (EST), or saline (SAL) beneficial uses. Changes in normal ambient pH levels shall not exceed 0.5 units in fresh waters with designated cold freshwater habitat (COLD) or warm freshwater habitat (WARM) beneficial uses. In bays and estuaries the pH shall not be depressed below 7.0 nor raised above 9.0. In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.
Radioactivity	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Suspended Solids	Waters shall not contain suspended and settlable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with

	this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board. The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements specified in US EPA, State Water Resources Control Board. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour acute bioassay. In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.
Temperature	The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any COLD water be increased more than 5F above the natural receiving water temperature.
Taste and Odor	Waters shall not contain taste or odor producing substances at concentrations which cause a nuisance or adversely affect beneficial uses. The natural taste and odor of fish, shellfish or other Regional water resources used for human consumption Shall not be impaired in inland surface waters and bays and estuaries.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Water Quality Numeric Criteria

Beneficial Use	Numeric Constituent Name	Numeric Constituent Detail	Numeric Constituent Maximum	Numeric Constituent Units	Numeric Constituent Comments	Numeric Constituent Reference
MUN	1,1,1-Trichloroethane	-	0.2	mg/L		TITLE22
MUN	1,1,2,2-Tetrachloroethane	-	0.001	mg/L		TITLE22
MUN	1,1,2-Trichloroethane	-	0.005	mg/L		TITLE22
MUN	1,1-Dichloroethane	-	0.005	mg/L		TITLE22
MUN	1,1-Dichloroethylene	-	0.006	mg/L		TITLE22
MUN	1,2,4-Trichlorobenzene	-	0.07	mg/L		TITLE22
MUN	1,2-Dibromo-3-chloropropane	-	0.0002	mg/L		TITLE22
MUN	1,2-Dichlorobenzene	-	0.6	mg/L		TITLE22
MUN	1,2-Dichloroethane	-	0.0005	mg/L		TITLE22
MUN	1,2-Dichloropropane	-	0.005	mg/L		TITLE22
MUN	1,3-Dichloropropene	-	0.0005	mg/L		TITLE22
MUN	1,4-Dichlorobenzene	-	0.005	mg/L		TITLE22
MUN	2,3,7,8-TCDD (Dioxin)	-	0.0000003	mg/L		TITLE22
MUN	2,4,5-TP (Silvex)	-	0.05	mg/L		TITLE22
MUN	2,4-D	-	0.07	mg/L		TITLE22
MUN	Alachlor	-	0.002	mg/L		TITLE22
MUN	Aluminum	-	1	mg/L		TITLE22
MUN	Antimony	-	0.006	mg/L		TITLE22
MUN	Arsenic	-	0.05	mg/L		TITLE22
MUN	Asbestos	-	7	MFL	Million fibers per liter	TITLE22
MUN	Atrazine	-	0.003	mg/L		TITLE22
MUN	Barium	-	1	mg/L		TITLE22
MUN	Bentazon	-	0.018	mg/L		TITLE22
MUN	Benzene	-	0.001	mg/L		TITLE22

MUN	Benzo(a)pyrene	-	0.0002	mg/L		TITLE22
MUN	Beryllium	-	0.004	mg/L		TITLE22
MUN	Cadmium	-	0.005	mg/L		TITLE22
MUN	Carbofuran	-	0.018	mg/L		TITLE22
MUN	Carbon Tetrachloride	-	0.0005	mg/L		TITLE22
MUN	Chlordane	-	0.0001	mg/L		TITLE22
MUN	Chromium	-	0.05	mg/L		TITLE22
MUN	cis-1,2-Dichloroethylene	-	0.006	mg/L		TITLE22
MUN	Copper	-	1.3	mg/L	in >10% of tap water samples collected	TITLE22, Pb&Cu Rule
MUN	Cyanide	-	0.2	mg/L		TITLE22
MUN	Dalapon	-	0.2	mg/L		TITLE22
MUN	Di(2-ethylhexyl)adipate	-	0.4	mg/L		TITLE22
MUN	Di(2-ethylhexyl)phthalate	-	0.004	mg/L		TITLE22
MUN	Dichloromethane	-	0.005	mg/L		TITLE22
MUN	Dinoseb	-	0.007	mg/L		TITLE22
MUN	Diquat	-	0.02	mg/L		TITLE22
MUN	Endothall	-	0.1	mg/L		TITLE22
MUN	Endrin	-	0.002	mg/L		TITLE22
MUN	Ethylbenzene	-	0.7	mg/L		TITLE22
MUN	Ethylene Dibromide	-	0.00005	mg/L		TITLE22
MUN	Fluoride	<53.7F	2.4	mg/L		
MUN	Fluoride	53.8F-58.3F	2.2	mg/L		
MUN	Fluoride	58.4F-63.8F	2	mg/L		
MUN	Fluoride	63.9F-70.6F	1.8	mg/L		
MUN	Fluoride	70.7F-79.2F	1.6	mg/L		
MUN	Fluoride	79.3F-90.5F	1.4	mg/L		
MUN	Freon 113	-	1.2	mg/L		TITLE22
MUN	Glyphosate	-	0.7	mg/L		TITLE22
MUN	Heptachlor	-	0.00001	mg/L		TITLE22
MUN	Heptachlor Epoxide	-	0.00001	mg/L		TITLE22
MUN	Hexachlorobenzene	-	0.001	mg/L		TITLE22
MUN	Hexachlorocyclopentadiene	-	0.05	mg/L		TITLE22
MUN	Lead	-	0.015	mg/L	in>10% of tap water samples collected	TITLE22, Pb&Cu Rule
MUN	Lindane	-	0.0002	mg/L		TITLE22
MUN	MBAS	-	0.5	0		
MUN	Mercury	-	0.002	mg/L		TITLE22
MUN	Methoxychlor	-	0.04	mg/L		TITLE22
MUN	Molinate	-	0.02	mg/L		TITLE22
MUN	Monochlorobenzene	-	0.07	mg/L		TITLE22
MUN	Nickel	-	0.1	mg/L		TITLE22
MUN	Nitrate (as NO3)	-	45	mg/L		TITLE22
MUN	Nitrate + Nitrite (sum as nitrogen)	-	10	mg/L		TITLE22
MUN	Nitrite (as nitrogen)	-	1	mg/L		TITLE22
MUN	Oxamyl	-	0.2	mg/L		TITLE22

MUN	PCBs	-	0.0005	mg/L		TITLE22
MUN	Pentachlorophenol	-	0.001	mg/L		TITLE22
MUN	Phenols	-	0.001	mg/L		
MUN	Picloram	-	0.5	mg/L		TITLE22
MUN	Selenium	-	0.05	mg/L		TITLE22
MUN	Simazine	-	0.004	mg/L		TITLE22
MUN	Styrene	-	0.1	mg/L		TITLE22
MUN	Tetrachloroethylene	-	0.005	mg/L		TITLE22
MUN	Thallium	-	0.002	mg/L		TITLE22
MUN	Thiobencarb	-	0.07	mg/L		TITLE22
MUN	Toluene	-	0.15	mg/L		TITLE22
MUN	Toxaphene	-	0.003	mg/L		TITLE22
MUN	trans-1,2-Dichloroethylene	-	0.01	mg/L		TITLE22
MUN	Trichloroethylene	-	0.005	mg/L		TITLE22
MUN	Trichlorofluoromethane	-	0.15	mg/L		TITLE22
MUN	Vinyl Chloride	-	0.0005	mg/L		TITLE22
MUN	Xylenes	-	1.75	mg/L		TITLE22
WARM	Dissolved Oxygen	-	-5	mg/L		
AGR	Boron	-	0.75	mg/L		Quality Criteria for Water, 1986 - Gold Book.

Water Quality Ammonia Criteria

Beneficial Use	Constituent Name	Constituent pH	Constituent Temperature	Constituent Time Duration	Constituent Concentration	Constituent Units
AGR	Ammonia as N	-	-	-	0.025	mg/L
COLD	Ammonia as N	-	-	-	0.025	mg/L
IND	Ammonia as N	-	-	-	0.025	mg/L
MUN	Ammonia as N	-	-	-	0.025	mg/L
PROC	Ammonia as N	-	-	-	0.025	mg/L
REC1	Ammonia as N	-	-	-	0.025	mg/L
REC2	Ammonia as N	-	-	-	0.025	mg/L
WARM	Ammonia as N	-	-	-	0.025	mg/L
WILD	Ammonia as N	-	-	-	0.025	mg/L

Water Quality Bacteria Criteria

Beneficial Use	Constituent Name	Constituent Concentration Details	Constituent Concentration	Constituent Units	Constituent Comments	Constituent Reference
REC1	Fecal Coliform	Log Mean-10% of Samples for 30 day	400	Count per 100 ml	Log mean value. Based on more than 10 percent of total samples during any 30-day period.	
REC1	Fecal Coliform	Log Mean-5 Samples for 30 day	200	Count per 100 ml	Log mean value. Based on a minimum of not less than five samples for any 30-day period.	
REC2	Fecal	Average-10% of	4000	Count per	Average value. Based on	

	Coliform	Samples for 30 day		100 ml	more than 10 percent of total samples during any 30-day period.	
REC2	Fecal Coliform	Average-for 30 day	2000	Count per 100 ml	Average value. Based on samples for a 30-day period.	

Comments
Comments Click above to go to the Comments input page.
***No Comments Available**

Water Quality Standards Inventory Database

Click on the links below to search for another waterbody.	Click on the links below to view water quality parameters for Viejas Creek.	Click on the links below to view comments and corrections logged or to navigate to the comments and corrections input page.
Search by Beneficial Uses	Beneficial Uses	Comments and Corrections Logged
Search by Keyword	Water Quality Objectives	Comments and Corrections Input Page
Search by SWRCB Region	Water Quality Narrative Constituents	
Search by Caltrans District	Water Quality Numeric Criteria	
Search by County	Water Quality Bacteria Criteria	

Viejas Creek

Water Quality Control Board Region: Click on the region number for a list of waterbodies and reported hydrologic units in that region.	9	
Hydrologic Units: Click on the reported hydrologic unit for a list of waterbodies in that unit.	Reported Hydrologic Units	Published Hydrologic Units
	909.33	*Reported Value Invalid
Caltrans District:	*No Reported or Published Caltrans District Associated with the Reported Hydrologic Unit	
Counties: Click on the reported county name for a list of waterbodies and reported hydrologic units in that county. *Please note that reported and published counties are associated with hydrologic unit, not waterbody.	Reported Counties	Published Counties
*No Reported or Published County Associated with the Reported Hydrologic Unit		

No Map Available for this Reported Watershed

Geospatial Waterbody System Assessment Data

VIEJAS CREEK
(Includes 305(b) and 303(d) Determinations)

Waterbody Beneficial Uses

RWQCB Beneficial Use Click on the beneficial use for the beneficial use code and description.	Use Status Potential or Existing
Agricultural Supply	Existing
Cold Freshwater Habitat	Existing
Industrial Service Supply	Existing
Municipal and Domestic Supply	Existing
Industrial Process Supply	Existing
Water Contact Recreation	Existing
Non-Contact Water Recreation	Existing
Warm Freshwater Habitat	Existing
Wildlife Habitat	Existing

Water Quality Objectives						
Waterbody Reach	Beneficial Use	Constituent	Constituent Concentration	Constituent Units	Constituent Details	Constituent Comments
*No WQOs Available						

Water Quality Narrative Constituents	
Constituent Name	Constituent Description
Biostimulatory Substances	Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses.
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.The natural color of fish, shellfish or other resources in inland surface waters, coastal lagoon or bay and estuary shall not be impaired.
DO	The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.
Floating Material	Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations which result in a visible film or coating on the surface of the water or on objects in the water, or which cause nuisance or which otherwise adversely affect beneficial uses.
pH	The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.Changes in normal ambient pH levels shall not exceed 0.2 units in waters with designated marine (MAR), or estuarine (EST), or saline (SAL) beneficial uses. Changes in normal ambient pH levels shall not exceed 0.5 units in fresh waters with designated cold freshwater habitat (COLD) or warm freshwater habitat (WARM) beneficial uses. In bays and estuaries the pH shall not be depressed below 7.0 nor raised above 9.0. In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.
Radioactivity	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Suspended Solids	Waters shall not contain suspended and settlable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board. The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements specified in US EPA, State Water Resources Control Board. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour acute bioassay. In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.
Temperature	The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any COLD water be increased more than 5F above the natural receiving water temperature.
Taste and Odor	Waters shall not contain taste or odor producing substances at concentrations which cause a nuisance or

	adversely affect beneficial uses. The natural taste and odor of fish, shellfish or other Regional water resources used for human consumption Shall not be impaired in inland surface waters and bays and estuaries.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Water Quality Numeric Criteria

Beneficial Use	Numeric Constituent Name	Numeric Constituent Detail	Numeric Constituent Maximum	Numeric Constituent Units	Numeric Constituent Comments	Numeric Constituent Reference
MUN	1,1,1-Trichloroethane	-	0.2	mg/L		TITLE22
MUN	1,1,2,2-Tetrachloroethane	-	0.001	mg/L		TITLE22
MUN	1,1,2-Trichloroethane	-	0.005	mg/L		TITLE22
MUN	1,1-Dichloroethane	-	0.005	mg/L		TITLE22
MUN	1,1-Dichloroethylene	-	0.006	mg/L		TITLE22
MUN	1,2,4-Trichlorobenzene	-	0.07	mg/L		TITLE22
MUN	1,2-Dibromo-3-chloropropane	-	0.0002	mg/L		TITLE22
MUN	1,2-Dichlorobenzene	-	0.6	mg/L		TITLE22
MUN	1,2-Dichloroethane	-	0.0005	mg/L		TITLE22
MUN	1,2-Dichloropropane	-	0.005	mg/L		TITLE22
MUN	1,3-Dichloropropene	-	0.0005	mg/L		TITLE22
MUN	1,4-Dichlorobenzene	-	0.005	mg/L		TITLE22
MUN	2,3,7,8-TCDD (Dioxin)	-	0.0000003	mg/L		TITLE22
MUN	2,4,5-TP (Silvex)	-	0.05	mg/L		TITLE22
MUN	2,4-D	-	0.07	mg/L		TITLE22
MUN	Alachlor	-	0.002	mg/L		TITLE22
MUN	Aluminum	-	1	mg/L		TITLE22
MUN	Antimony	-	0.006	mg/L		TITLE22
MUN	Arsenic	-	0.05	mg/L		TITLE22
MUN	Asbestos	-	7	MFL	Million fibers per liter	TITLE22
MUN	Atrazine	-	0.003	mg/L		TITLE22
MUN	Barium	-	1	mg/L		TITLE22
MUN	Bentazon	-	0.018	mg/L		TITLE22
MUN	Benzene	-	0.001	mg/L		TITLE22
MUN	Benzo(a)pyrene	-	0.0002	mg/L		TITLE22
MUN	Beryllium	-	0.004	mg/L		TITLE22
MUN	Cadmium	-	0.005	mg/L		TITLE22
MUN	Carbofuran	-	0.018	mg/L		TITLE22
MUN	Carbon Tetrachloride	-	0.0005	mg/L		TITLE22
MUN	Chlordane	-	0.0001	mg/L		TITLE22
MUN	Chromium	-	0.05	mg/L		TITLE22
MUN	cis-1,2-Dichloroethylene	-	0.006	mg/L		TITLE22
MUN	Copper	-	1.3	mg/L	in >10% of tap water samples collected	TITLE22, Pb&Cu Rule
MUN	Cyanide	-	0.2	mg/L		TITLE22
MUN	Dalapon	-	0.2	mg/L		TITLE22

MUN	Di(2-ethylhexyl)adipate	-	0.4	mg/L		TITLE22
MUN	Di(2-ethylhexyl)phthalate	-	0.004	mg/L		TITLE22
MUN	Dichloromethane	-	0.005	mg/L		TITLE22
MUN	Dinoseb	-	0.007	mg/L		TITLE22
MUN	Diquat	-	0.02	mg/L		TITLE22
MUN	Endothall	-	0.1	mg/L		TITLE22
MUN	Endrin	-	0.002	mg/L		TITLE22
MUN	Ethylbenzene	-	0.7	mg/L		TITLE22
MUN	Ethylene Dibromide	-	0.00005	mg/L		TITLE22
MUN	Fluoride	<53.7F	2.4	mg/L		
MUN	Fluoride	53.8F-58.3F	2.2	mg/L		
MUN	Fluoride	58.4F-63.8F	2	mg/L		
MUN	Fluoride	63.9F-70.6F	1.8	mg/L		
MUN	Fluoride	70.7F-79.2F	1.6	mg/L		
MUN	Fluoride	79.3F-90.5F	1.4	mg/L		
MUN	Freon 113	-	1.2	mg/L		TITLE22
MUN	Glyphosate	-	0.7	mg/L		TITLE22
MUN	Heptachlor	-	0.00001	mg/L		TITLE22
MUN	Heptachlor Epoxide	-	0.00001	mg/L		TITLE22
MUN	Hexachlorobenzene	-	0.001	mg/L		TITLE22
MUN	Hexachlorocyclopentadiene	-	0.05	mg/L		TITLE22
MUN	Lead	-	0.015	mg/L	in>10% of tap water samples collected	TITLE22, Pb&Cu Rule
MUN	Lindane	-	0.0002	mg/L		TITLE22
MUN	MBAS	-	0.5	0		
MUN	Mercury	-	0.002	mg/L		TITLE22
MUN	Methoxychlor	-	0.04	mg/L		TITLE22
MUN	Molinate	-	0.02	mg/L		TITLE22
MUN	Monochlorobenzene	-	0.07	mg/L		TITLE22
MUN	Nickel	-	0.1	mg/L		TITLE22
MUN	Nitrate (as NO3)	-	45	mg/L		TITLE22
MUN	Nitrate + Nitrite (sum as nitrogen)	-	10	mg/L		TITLE22
MUN	Nitrite (as nitrogen)	-	1	mg/L		TITLE22
MUN	Oxamyl	-	0.2	mg/L		TITLE22
MUN	PCBs	-	0.0005	mg/L		TITLE22
MUN	Pentachlorophenol	-	0.001	mg/L		TITLE22
MUN	Phenols	-	0.001	mg/L		
MUN	Picloram	-	0.5	mg/L		TITLE22
MUN	Selenium	-	0.05	mg/L		TITLE22
MUN	Simazine	-	0.004	mg/L		TITLE22
MUN	Styrene	-	0.1	mg/L		TITLE22
MUN	Tetrachloroethylene	-	0.005	mg/L		TITLE22
MUN	Thallium	-	0.002	mg/L		TITLE22
MUN	Thiobencarb	-	0.07	mg/L		TITLE22
MUN	Toluene	-	0.15	mg/L		TITLE22
MUN	Toxaphene	-	0.003	mg/L		TITLE22
MUN	trans-1,2-Dichloroethylene	-	0.01	mg/L		TITLE22

MUN	Trichloroethylene	-	0.005	mg/L		TITLE22
MUN	Trichlorofluoromethane	-	0.15	mg/L		TITLE22
MUN	Vinyl Chloride	-	0.0005	mg/L		TITLE22
MUN	Xylenes	-	1.75	mg/L		TITLE22
WARM	Dissolved Oxygen	-	-5	mg/L		
AGR	Boron	-	0.75	mg/L		Quality Criteria for Water. 1986 - Gold Book.

Water Quality Ammonia Criteria

Beneficial Use	Constituent Name	Constituent pH	Constituent Temperature	Constituent Time Duration	Constituent Concentration	Constituent Units
AGR	Ammonia as N	-	-	-	0.025	mg/L
COLD	Ammonia as N	-	-	-	0.025	mg/L
IND	Ammonia as N	-	-	-	0.025	mg/L
MUN	Ammonia as N	-	-	-	0.025	mg/L
PROC	Ammonia as N	-	-	-	0.025	mg/L
REC1	Ammonia as N	-	-	-	0.025	mg/L
REC2	Ammonia as N	-	-	-	0.025	mg/L
WARM	Ammonia as N	-	-	-	0.025	mg/L
WILD	Ammonia as N	-	-	-	0.025	mg/L

Water Quality Bacteria Criteria

Beneficial Use	Constituent Name	Constituent Concentration Details	Constituent Concentration	Constituent Units	Constituent Comments	Constituent Reference
REC1	Fecal Coliform	Log Mean-10% of Samples for 30 day	400	Count per 100 ml	Log mean value. Based on more than 10 percent of total samples during any 30-day period.	
REC1	Fecal Coliform	Log Mean-5 Samples for 30 day	200	Count per 100 ml	Log mean value. Based on a minimum of not less than five samples for any 30-day period.	
REC2	Fecal Coliform	Average-10% of Samples for 30 day	4000	Count per 100 ml	Average value. Based on more than 10 percent of total samples during any 30-day period.	
REC2	Fecal Coliform	Average-for 30 day	2000	Count per 100 ml	Average value. Based on samples for a 30-day period.	

Comments

Comments

Click above to go to the Comments input page.

***No Comments Available**

VIEJAS CREEK

Click below or scoll down for additional waterbody information:
- Water Quality Assessment
- Beneficial Uses Support
- Causes and Sources of Impairment
- Total Maximum Daily Load Pollutants

Water Quality Standards Inventory Database
Water quality objectives, constituents, and criteria for VIEJAS CREEK.

Waterbody Location

Sorry, no spatial domain available at this time.

Water Quality Assessment

Waterbody Data	Value
Approximate Size:	7.1
Unit of Measure:	Miles
RWQCB Region:	9
Calwater Watershed (RBUASPW):	909.300
Year Last Assessed:	1998
Is Waterbody on 303(d) List?	No
Assessment Comments:	No Comments

Beneficial Uses

No Beneficial Uses are Currently Listed

Causes of Impairment

No Causes of Impairment are Currently Listed

Sources of Impairment

No Sources of Impairment are Currently Listed

Total Maximum Daily Load Pollutants

No TMDLs are Currently Listed

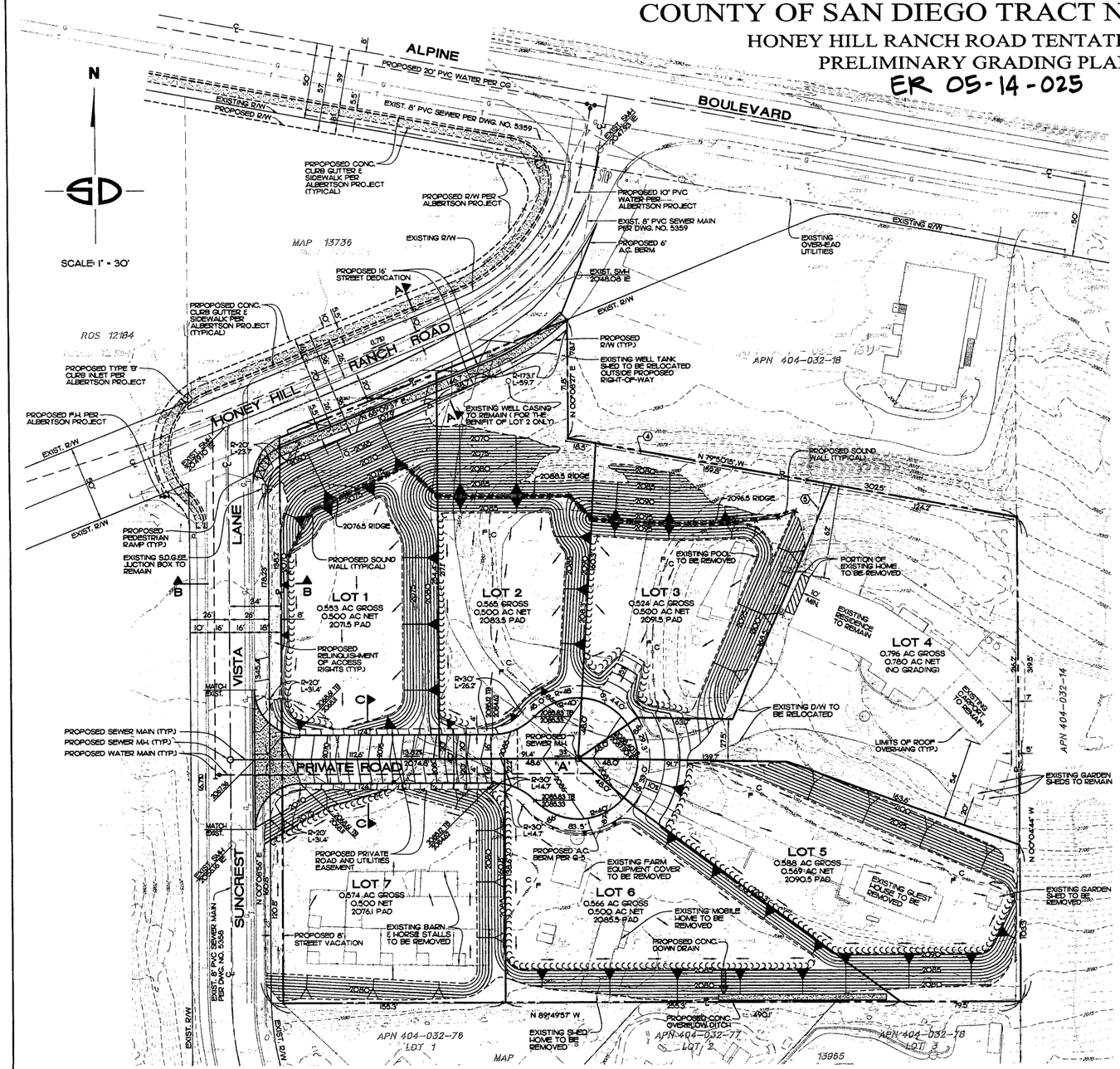
APPENDIX E

COUNTY OF SAN DIEGO TRACT NO. 5437 RPL 1

HONEY HILL RANCH ROAD TENTATIVE MAP

PRELIMINARY GRADING PLAN

ER 05-14-025



EASEMENT DATA

(4) AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES TO SAN DIEGO GAS AND ELECTRIC COMPANY, RECORDED NOVEMBER 20, 1928 AS BOOK 1561, PAGE 5 OF DEEDS.

(5) AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES TO SAN DIEGO GAS AND ELECTRIC COMPANY, RECORDED APRIL 24, 1951 IN BOOK 4071, PAGE 63 OF OFFICIAL RECORDS.

LEGAL DESCRIPTION

A PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 26, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

WAIVERS REQUESTED

81.402 (a)(1) - REQUEST A WAIVER OF DEDICATION TO COUNTY OF SAN DIEGO FOR PUBLIC ROAD PURPOSES THE ON-SITE ACCESS ROAD. THE PROPOSED PRIVATE ACCESS ROAD IS MINIMUM OF 40 FEET WIDE AND WILL SERVE NO MORE THAN 7 LOTS, WHICH EQUATES TO 70 ADT. THIS IS LESS THAN THE 100 ADT WHICH IS REFERENCED IN SECTION 81.402 (a)(2) AS BEING ACCEPTABLE FOR A 40 FOOT MINIMUM PRIVATE ROAD.

PROJECT INFORMATION

ASSESSOR'S PARCEL NUMBERS: 404-032-73

TAX RATE AREA: 51012

REGIONAL PLAN DESIGNATION: CT, COUNTRY TOWN

COMMUNITY PLAN AREA: ALPINE

GENERAL PLAN DESIGNATION: NO. 3, RESIDENTIAL.

EXISTING ZONING: (SEE BOX)

PROPOSED ZONING: (SEE BOX – NO CHANGE)

WATER: PADRE DAM MUNICIPAL WATER DISTRICT

SEWER: ALPINE SANITATION DISTRICT

FIRE DISTRICT: ALPINE FIRE PROTECTION DISTRICT

SCHOOL DISTRICT: ALPINE UNION SCHOOL DISTRICT (K-8), GROSSMONT UNION HIGH SCHOOL DISTRICT (9-12)

ZONING DATA		EXIST.	PROP.
USE REGULATIONS		RR2	RR2
NEIGHBORHOOD REGS.		J	J
DEVELOPMENT REGULATIONS	DENSITY	2	2
	LOT SIZE	0.5 AC	0.5 AC
	BUILDING TYPE	C	C
	MAX. FLOOR AREA	---	---
	FLOOR AREA RATIO	---	---
	HEIGHT	G	G
	LOT COVERAGE	---	---
	SET BACK	G	G
	OPEN SPACE	---	---
SPECIAL AREA REGS.		---	---

STREET LIGHTING: COUNTY OF SAN DIEGO

ACCESS: SUNCREST VISTA LANE, COUNTY MAINTAINED ROAD

SITE ADDRESS: 3087 HONEY HILL RANCH ROAD, ALPINE, CA.

ASSOCIATED PERMITS: NONE

GRADING: CUT 8,250 C.Y.
FILL 8,250 C.Y.
EXPORT 0 C.Y.

TOPOGRAPHY: PROVIDED SAN-LO AERIAL SURVEYS, DATED 12-21-04.

SOLAR STATEMENT: ALL LOTS WITHIN THIS SUBDIVISION HAVE A MINIMUM OF 100 SQUARE FEET OF SOLAR ACCESS FOR EACH FUTURE DWELLING/ COMMERCIAL/INDUSTRIAL/UNIT ALLOWED BY THIS SUBDIVISION.

GENERAL NOTES

1. ALL AREAS NOTED ARE GROSS AND NET, UNLESS OTHERWISE NOTED.
2. THE DEVELOPER SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED IN THE COUNTY STANDARDS FOR THE LOCATION OF STREET LIGHTS.
3. THE DEVELOPER SHALL PAY PARK FEES IN LIEU OF PARK LAND DEDICATION.
4. NO SPECIAL ASSESSMENTS WILL BE MADE ORREQUESTED.
5. PROJECT DATA: 4.20 ACRES GROSS, 3.88 ACRES NET.
6. MINIMUM LOT SIZE = 0.500 ACRES.
7. TOTAL LOTS / DU'S = 7.

UTILITY NOTES

1. WATER SYSTEM TO BE INSTALLED PER PADRE DAM MUNICIPAL WATER DISTRICT STANDARDS.
2. SEWER SYSTEM TO BE INSTALLED PER ALPINE SANITIATION DISTRICT STANDARDS.
3. PROPOSED DRY UTILITIES SHALL BE PLACED UNDERGROUND ACCORDING TO COUNTY STANDARDS.

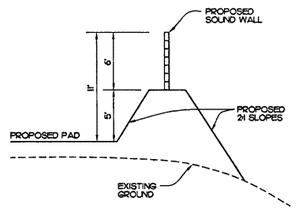
OWNER / SUBDIVIDER / APPLICANT

MICHAEL J. TOBY
JOYCE TOBY
3087 HONEY HILL RANCH ROAD
ALPINE, CA 91901
PHONE: 619/368-9608

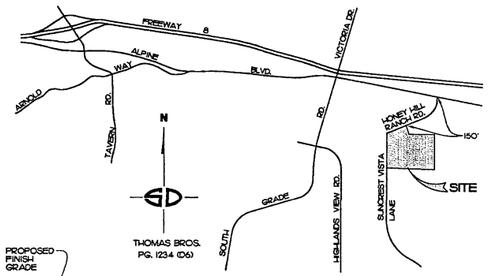
MICHAEL J. TOBY JOYCE TOBY

PRELIMINARY GRADING PLAN NOTES:

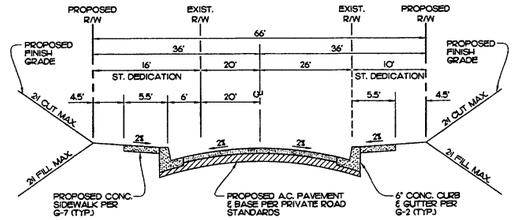
1. THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AND APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN A VALID GRADING PERMIT BEFORE COMMENCING SUCH ACTIVITY.
2. ALL CUT / FILL SLOPES ARE 2:1 MAXIMUM, UNLESS OTHERWISE SHOWN.
3. ALL LOTS WILL HAVE ACCESS VIA A 16' WIDE MINIMUM ASPHALT CONCRETE DRIVEWAY.
4. ALL DRIVEWAYS SHALL BE CONSTRUCTED PER DS-7 WITH A MAXIMUM GRADE OF 20%.



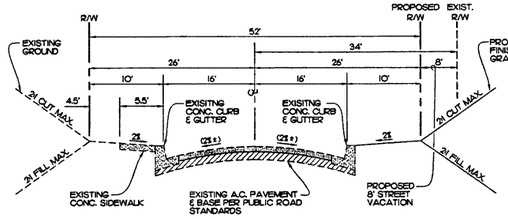
TYPICAL SECTION @ SOUND WALL
NO SCALE



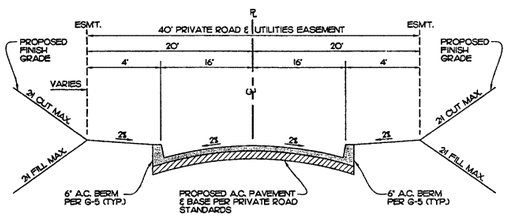
VICINITY MAP
NO SCALE



HONEY HILL RANCH ROAD
TYPICAL SECTION 'A-A'
NO SCALE



SUNCREST VISTA LANE
TYPICAL SECTION 'B-B'
NO SCALE



PRIVATE ROAD
TYPICAL SECTION 'C-C'
NO SCALE

30 15 0 30 60 90
GRAPHIC SCALE

ENGINEER OF WORK

ENGINEER OF WORK
Snipes-Dye associates
civil engineers and land surveyors
8348 CENTER DRIVE, STE G, LA MESA, CA 91942
TELEPHONE (619) 697-9234 FAX (619) 460-2033

WILLIAM A. SNIPES R.C.E. 50477
EXPIRES 06-30-07

9/12/05

REGISTERED PROFESSIONAL ENGINEER — WILLIAM A. SNIPES — No. 50477 — Exp. 06-30-07 — CIVIL — STATE OF CALIFORNIA

ER 05-14-025

PRELIMINARY GRADING PLAN TM 5437 RPL 1

HONEY HILL RANCH ROAD

8348 CENTER DRIVE, SUITE G, LA MESA, CA 91942-2910 (619) 697-9234, FAX (619) 460-2033

SNIPES-DYE ASSOCIATES

NO	DATE	REVISION DESCRIPTION	BY
1	6/25/05	REPLACEMENT TM PER COUNTY REVIEW COMMENTS	SDA

DESIGNER WAS
DRAWN TCT
CHECKED WAS
DATE 5/05/05

SHEET 1 OF 1 SHEETS

JOB NO. ALI171 (D3)

S:\SNIPES\ALI171\DWG\TM GP-LDWG